L Number	Hits	Search Text	DB	Time stamp
1	189534	soil same contamination soil bind	USPAT; EPO	2004/08/30 09:37
2	87601	soil same contamination soil bind same immobili$4 same dissociat$4	USPAT; EPO	2004/08/30 09:38
3	0	soil same contamination same bind same immobili$4 same dissociat$4	USPAT; EPO	2004/08/30 09:38
4	0	soil same contamination same immobili$4 same dissociat$4	USPAT; EPO	2004/08/30 09:39
5	1	soil same immobili$4 same dissociat$4	USPAT; EPO	2004/08/30 09:39
6	3	((heavy adj1 metal) or (organo near2 halide)) same immobili$4 same dissociat$4	USPAT; EPO	2004/08/30 09:40

L Number	Hits	Search Text	DB	Time stamp
1	4623	(pollutant or (heavy adj1 metal) or (organo near2 halide)) same (dissociat$3 or associat$3)	USPAT; US-PGPUB; EPO; DERWENT	2004/08/30 08:40
2	1478	(pollutant or (heavy adj1 metal) or (organo near2 halide)) same (dissociat$3 or associat$3) same (reduc$4 or inhibit$3 or prevent$3)	USPAT; US-PGPUB; EPO; DERWENT	2004/08/30 09:06
3	253	(pollutant or (heavy adj1 metal) or (organo near2 halide)) near10 (dissociat$3 or associat$3) near12 (reduc$4 or inhibit$3 or prevent$3)	USPAT; US-PGPUB; EPO; DERWENT	2004/08/30 08:41
4	206	(pollutant or (heavy adj1 metal) or (organo near2 halide)) near8 (dissociat$3 or associat$3) near6 (reduc$4 or inhibit$3 or prevent$3)	USPAT; US-PGPUB; EPO; DERWENT	2004/08/30 08:41
5	2	(pollutant or (heavy adj1 metal) or (organo near2 halide)) near8 (dissociat$3 or associat$3) near5 bind$3 near6 (reduc$4 or inhibit$3 or prevent$3)	USPAT; US-PGPUB; EPO; DERWENT	2004/08/30 08:43
6	13	(pollutant or (heavy adj1 metal) or (organo near2 halide)) near8 (dissociat$3 or associat$3) near5 bind$3	USPAT; US-PGPUB; EPO; DERWENT	2004/08/30 08:50
7	130	(pollutant or (heavy adj1 metal) or (organo near2 halide)) near10 dissociat$3	USPAT; US-PGPUB; EPO; DERWENT	2004/08/30 08:51
8	120	((pollutant or (heavy adj1 metal) or (organo near2 halide)) near10 dissociat$3) and @py<2004	USPAT; US-PGPUB; EPO; DERWENT	2004/08/30 08:51
9	73	(((pollutant or (heavy adj1 metal) or (organo near2 halide)) near10 dissociat$3) and @py<2004) and (aquatic or terrestrial or gaseous or industrial or environmental)	USPAT; US-PGPUB; EPO; DERWENT	2004/08/30 08:52
10	8	(pollutant or (heavy adj1 metal) or (organo near2 halide)) same (dissociat$3 or associat$3) same (reduc$4 or inhibit$3 or prevent$3) same immobili$4	USPAT; US-PGPUB; EPO; DERWENT	2004/08/30 09:07

L Number	Hits	Search Text	DB	Time stamp
1	0	heavy near2 metal near10 immobili$2 near protein	USPAT; EPO	2004/08/30 09:48
2	0	heavy near2 metal near10 immobili$2 near10 protein	USPAT; EPO	2004/08/30 09:49
3	19	heavy near2 metal near10 immobili$2	USPAT; EPO	2004/08/30 10:30
4	19	(lead or mecury) near10 bind near10 immobili$4	USPAT; EPO	2004/08/30 10:31
5	0	((lead or mecury) near10 bind near10 immobili$4) same (dissociat$3 or associat$3)	USPAT; EPO	2004/08/30 10:31
6	0	((lead or mecury) near10 bind near10 immobili$4) same dissociat$3	USPAT; EPO	2004/08/30 10:31
8	2	((lead or mecury) near10 bind near10 immobili$4) same (inhibit or prevent or reduc$3)	USPAT; US-PGPUB; EPO; DERWENT	2004/08/30 10:32
7	36	(lead or mecury) near10 bind near10 immobili$4	USPAT; US-PGPUB; EPO; DERWENT	2004/08/30 10:42
9	66	(lead or mercury or chromium or Cu or cadimium or Cd or dioxin or PCB) same immobili$6 same dissociat$3	USPAT; US-PGPUB; EPO; DERWENT	2004/08/30 10:51
10	24	(lead or mercury or chromium or Cu or cadimium or Cd or dioxin or PCB) same immobili$6 same dissociat$3 same (detect or identif$5 or screen)	USPAT; US-PGPUB; EPO; DERWENT	2004/08/30 10:52
11	38	(lead or mercury or chromium or Cu or cadimium or Cd or dioxin or PCB) same immobili$6 same dissociat$3 same (detect or identif$5 or screen or evaluat$4 or determin$3)	USPAT; US-PGPUB; EPO; DERWENT	2004/08/30 10:52

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accessing the remaining file names entered.
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                                                         ENTRY    SESSION
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L19 ANSWER 1 OF 12 LIFESCI COPYRIGHT 2004 CSA on STN DUPLICATE 1
ACCESSION NUMBER: 2004:76236 LIFESCI
TITLE: Polychlorinated Biphenyls (PCBs) Detection in Food Samples Using an Electrochemical Immunosensor
AUTHOR: Laschi, S.; Mascini, M.; Scortichini, G.; Franek, M.; Mascini, M.
CORPORATE SOURCE: Dipartimento di Chimica, Universita degli Studi di Firenze, Via della Lastruccia 3, 50019, Sesto Fiorentino, Firenze (Italy)
SOURCE: Journal of Agricultural and Food Chemistry [J. Agric. Food Chem.], (20030300) vol. 51, no. 7, pp. 1816-1822. ISSN: 0021-8561.
DOCUMENT TYPE: Journal
FILE SEGMENT: X
LANGUAGE: English
SUMMARY LANGUAGE: English
AB In this work, a disposable electrochemical immunosensor, based on a competitive assay scheme, was applied to detect polychlorinated biphenyls (PCBs) in food. For this purpose, antibodies against PCBs were directly **immobilized** onto the carbon surface of a disposable **screen** -printed electrode. A competition between the PCBs present in the sample and a fixed concentration of an enzyme-labeled PCB was realized and evaluated by electrochemical detection. Alkaline phosphatase was used as the enzyme label, coupled with differential pulse voltammetry (DPV) as the electrochemical technique. The immunosensor was tested on aroclor mixture detection (1242 and 1248) and then on some typologies of food samples to evaluate the possible application for real sample analysis. Samples analyzed were from different matrixes, such as sheep milk, bovine adipose tissue, and bovine muscle. Results obtained were compared with the accredited results according to ISO 17025 methods for PCB detection (HRGC-LRMS) as a confirmatory analysis. Preliminary results show the possibility to use this device as a screening method in food sample analysis. The negligible matrix effect observed may **lead** to a simplified extraction procedure, and considerable time and consumable savings are the immediate benefits given by the proposed method.

L19 ANSWER 2 OF 12 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2004) on STN DUPLICATE 2
ACCESSION NUMBER: 2003:23784 AGRICOLA
DOCUMENT NUMBER: IND23316286
TITLE: Studies on **chromium** (VI) adsorption-desorption using **immobilized** fungal biomass.
AUTHOR(S): Bai, R.S.; Abraham, T.E.
AVAILABILITY: DNAL (TD930.A32)
SOURCE: Bioresource technology, Mar 2003. Vol. 87, No. 1. p. 17-26

Publisher: Oxford, U.K. : Elsevier Science Limited.
CODEN: BIRTEB; ISSN: 0960-8524
NOTE: Includes references
PUB. COUNTRY: England; United Kingdom
DOCUMENT TYPE: Article
FILE SEGMENT: Non-U.S. Imprint other than FAO
LANGUAGE: English

AB The aim of this study was to investigate the Cr(VI) biosorption potential of **immobilized** Rhizopus nigricans and to **screen** a variety of non-toxic desorbing agents, in order to find out possible application in multiple sorption-desorption cycles. The biomass was **immobilized** by various mechanisms and evaluated for removal of Cr(VI) from aqueous solution, mechanical stability to desorbents, and reuse in successive cycles. The finely powdered biomass, entrapped in five different polymeric matrices viz. calcium alginate, polyvinyl alcohol (PVA), polyacrylamide, polyisoprene, and polysulfone was compared for biosorption efficiency and stability to desorbents. Physical immobilization to polyurethane foam and coir fiber was less efficient than polymer entrapment methods. Of the different combinations (%, w/v) of biomass dose compared for each matrix, 8% (calcium alginate), 6% (polyacrylamide and PVA), 12% (polyisoprene), and 10% (polysulfone) were found to be the optimum. The Cr sorption capacity (mg Cr/g sorbent) of all **immobilized** biomass was lesser than the native, powdered biomass. The Cr sorption capacity decreased in the order of free biomass (119.2) > polysulfone entrapped (101.5) > polyisoprene **immobilized** (98.76) > PVA **immobilized** (96.69) > calcium alginate entrapped (84.29) > polyacrylamide (45.56), at 500 mg/l concentration of Cr(VI). The degree of mechanical stability and chemical resistance of the **immobilized** systems were in the order of polysulfone > polyisoprene > PVA > polyacrylamide > calcium alginate. The bound Cr(VI) could be eluted successfully using 0.01 N NaOH, NaHCO3, and Na2CO3. The adsorption data for the native and the **immobilized** biomass was evaluated by the Freundlich isotherm model. The successive sorption-desorption studies employing polysulfone entrapped biomass indicated that the biomass beads could be regenerated and reused in more than 25 cycles and the regeneration efficiency was 75-78%.

L19 ANSWER 3 OF 12 BIOTECHNO COPYRIGHT 2004 Elsevier Science B.V. on STN
DUPLICATE

ACCESSION NUMBER: 2002:35232483 BIOTECHNO
TITLE: Microbial biosensor array with transport mutants of Escherichia coli K12 for the simultaneous determination of mono-and disaccharides
AUTHOR: Held M.; Schuhmann W.; Jahreis K.; Schmidt H.-L.
CORPORATE SOURCE: H.-L. Schmidt, Lehrstuhl fur Biologische Chemie, TU Munchen, Vottingerstrasse 40, D-85350 Freising, Germany.
SOURCE: Biosensors and Bioelectronics, (2002), 17/11-12 (1089-1094), 26 reference(s)
CODEN: BBIOE4 ISSN: 0956-5663
PUBLISHER ITEM IDENT.: S0956566302001033
DOCUMENT TYPE: Journal; Article
COUNTRY: United Kingdom
LANGUAGE: English
SUMMARY LANGUAGE: English

AN 2002:35232483 BIOTECHNO
AB An automated flow-injection system with an integrated biosensor array using bacterial cells for the selective and simultaneous determination various mono- and disaccharides is described. The selectivity of the individually addressable sensors of the array was achieved by the combination of the metabolic response, measured as the O.sub.2 consumption, of bacterial mutants of Escherichia coli K12 lacking different transport systems for individual carbohydrates. κ-Carrageenan was used as immobilization matrix for entrapment of

the bacterial cells in front of 6 individually addressable working electrodes of a **screen**-printed sensor array. The local consumption of molecular oxygen caused by the metabolic activity of the **immobilized** cells was amperometrically determined at the underlying **screen**-printed gold electrodes at a working potential of -600 mV vs. Ag/AgCl. Addition of mono- or disaccharides for which functional transport systems exist in the used transport mutant strains of E. coli K12 **leads** to an enhanced metabolic activity of the **immobilized** bacterial cells and to a concomitant depletion of oxygen at the electrode. Parallel determination of fructose, glucose, and sucrose was performed demonstrating the high selectivity of the proposed analytical system. .COPYRGT. 2002 Published by Elsevier Science B.V.

L19 ANSWER 4 OF 12 BIOTECHNO COPYRIGHT 2004 Elsevier Science B.V. on STN
ACCESSION NUMBER: 2002:34174576 BIOTECHNO
TITLE: Diagnostic biochip array for fast and sensitive detection of K-ras mutations in stool
AUTHOR: Prix L.; Uciechowski P.; Bockmann B.; Giesing M.; Schuetz A.J.
CORPORATE SOURCE: A.J. Schuetz, Inst. fur Molekulare NanoTechnologie, Berghauser Strasse 295, 45659 Recklinghausen, Germany. E-mail: a.schuetz@imnt.de
SOURCE: Clinical Chemistry, (2002), 48/3 (428-435), 29 reference(s)
CODEN: CLCHAU ISSN: 0009-9147
DOCUMENT TYPE: Journal; Article
COUNTRY: United States
LANGUAGE: English
SUMMARY LANGUAGE: English
AN 2002:34174576 BIOTECHNO
AB Background: Tumor cells that shed into stool are attractive targets for molecular screening and early detection of colon or pancreatic malignancies. We developed a diagnostic test to **screen** for 10 of the most common mutations of codons 12 and 13 of the K-ras gene by hybridization to a new biochip array. Methods: DNA was isolated from 26 stool samples by column-based extraction from 9 cell lines. Peptide nucleic acid (PNA)-mediated PCR clamping was used for mutant-specific amplification. We used a biochip, consisting of a small plastic support with covalently **immobilized** 13mer oligonucleotides. The read out of the biochip was done by confocal time-resolved laser scanning. Hybridization, scanning, and data evaluation could be performed in <2 h. Results: Approximately 80 ng of DNA was obtained from 200-mg stool samples. No inhibition of the PCR by remaining impurities from stool was observed. Mutation detection was possible in 1000-fold excess of wild-type sequence. Discrimination ratios between the mutations were >19 as demonstrated by hybridization with tumor cell line DNA. Stool samples (n = 26) were analyzed in parallel with PNA-PCR, restriction assay for K-ras codon 12 mutations, sequencing, and hybridization to the biochip. Nine mutations were found by hybridization, all confirmed by sequencing. PNA-PCR alone **leads** to an overestimation of mutations because suppression of the wild type is not effective enough with high concentrations of wild-type DNA. The restriction assay found only four mutations. Conclusions: The K-ras biochip is well suited for fast mutation detection from stool in colorectal cancer screening. .COPYRGT. 2002 American Association for Clinical Chemistry.

L19 ANSWER 5 OF 12 PASCAL COPYRIGHT 2004 INIST-CNRS. ALL RIGHTS RESERVED. on STN
ACCESSION NUMBER: 2002-0292637 PASCAL
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TITLE (IN ENGLISH): Diagnostic biochip array for fast and sensitive detection of K-ras mutations in stool

AUTHOR: PRIX Lothar; UCIECHOWSKI Peter; BOECKMANN Beatrix; GIESING Michael; SCHUETZ Andreas J.
CORPORATE SOURCE: Institut fuer Molekulare NanoTechnologie, Berghaeuser Strasse 295, 45659 Recklinghausen, Germany, Federal Republic of
SOURCE: Clinical chemistry : (Baltimore, Md.), (2002), 3(48), 428-435, 29 refs.
ISSN: 0009-9147 CODEN: CLCHAU
DOCUMENT TYPE: Journal
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: United States
LANGUAGE: English
AVAILABILITY: INIST-7603, 354000100284300070
AN 2002-0292637 PASCAL

AB Background: Tumor cells that shed into stool are attractive targets for molecular screening and early detection of colon or pancreatic malignancies. We developed a diagnostic test to **screen** for 10 of the most common mutations of codons 12 and 13 of the K-ras gene by hybridization to a new biochip array. Methods: DNA was isolated from 26 stool samples by column-based extraction from 9 cell lines. Peptide nucleic acid (PNA)-mediated PCR clamping was used for mutant-specific amplification. We used a biochip, consisting of a small plastic support with covalently **immobilized** 13mer oligonucleotides. The read out of the biochip was done by confocal time-resolved laser scanning. Hybridization, scanning, and data evaluation could be performed in <2 h. Results: Approximately 80 ng of DNA was obtained from 200-mg stool samples. No inhibition of the PCR by remaining impurities from stool was observed. Mutation detection was possible in 1000-fold excess of wild-type sequence. Discrimination ratios between the mutations were >19 as demonstrated by hybridization with tumor cell line DNA. Stool samples (n = 26) were analyzed in parallel with PNA-PCR, restriction assay for K-ras codon 12 mutations, sequencing, and hybridization to the biochip. Nine mutations were found by hybridization, all confirmed by sequencing. PNA-PCR alone **leads** to an overestimation of mutations because suppression of the wild type is not effective enough with high concentrations of wild-type DNA. The restriction assay found only four mutations. Conclusions: The K-ras biochip is well suited for fast mutation detection from stool in colorectal cancer screening.

L19 ANSWER 6 OF 12 BIOTECHNO
DUPLICATE
ACCESSION NUMBER: 2002:34142295 BIOTECHNO
TITLE: **Immobilized** receptor- and transporter-based liquid chromatographic phases for on-line pharmacological and biochemical studies: A mini-review
AUTHOR: Moaddel R.; Lu L.; Baynham M.; Wainer I.W.
CORPORATE SOURCE: I.W. Wainer, National Institute on Aging, National Institute of Healths, Gerontology Research Center, 5600 Nathan Shock Drive, Baltimore, MD 21224-6825, United States.
E-mail: wainerir@grc.nia.nih.gov
SOURCE: Journal of Chromatography B: Analytical Technologies in the Biomedical and Life Sciences, (2002), 768/1 (41-53), 43 reference(s)
CODEN: JCBAAI ISSN: 1570-0232
PUBLISHER ITEM IDENT.: S0378434701004844
DOCUMENT TYPE: Journal; General Review
COUNTRY: Netherlands
LANGUAGE: English
SUMMARY LANGUAGE: English
AN 2002:34142295 BIOTECHNO
AB This review addresses the synthesis and characterization of two different types of receptor-based liquid chromatographic supports, one based upon a

trans-membrane ligand gated ion channel receptor (the nicotinic acetylcholine receptor) and the other a soluble nuclear receptor (the estrogen receptor). In addition, studies with the P-glycoprotein transporter are also reported. The nicotinic receptor was **immobilized** via hydrophobic insertion into the interstitial spaces of an **immobilized** artificial membrane (IAM) stationary phase, the estrogen receptor was tethered to a hydrophilic stationary phase and the membranes containing the Pgp transporter were coated on the surface of the IAM stationary phase. The stationary phases were characterized using known ligands and substrates for the respective non-**immobilized** proteins. The results from zonal and frontal chromatographic experiments demonstrated that the stationary phases could be used to determine binding affinities (expressed as dissociation constants, K.sub.d's) and to resolve mixtures of ligands according to their relative affinities. In addition, competitive ligand binding studies on the P-glycoprotein-based stationary phase have established that this phase can be used to identify and characterize competitive displacement and allosteric interactions. These studies demonstrate that **immobilized**-receptor phases can be used for on-line pharmacological studies and as rapid **screens** for the isolation and identification of **lead** drug candidates from complex biological or chemical mixtures.

L19 ANSWER 7 OF 12 LIFESCI COPYRIGHT 2004 CSA on STN
ACCESSION NUMBER: 2002:53611 LIFESCI
TITLE: Assessing the Absorption of New Pharmaceuticals
AUTHOR: Hidalgo, I.J.
CORPORATE SOURCE: Absorption Systems, LP, 440 Creamery Way, Suite 300, Exton, PA 19341, USA; E-mail: hidalgo@absorption.com
SOURCE: Current Topics in Medicinal Chemistry [Curr. Top. Med. Chem.], (20011100) vol. 1, no. 5, pp. 385-401. Compound Optimization in Early and Late-Phase Drug Discovery: Physiochemical, Pharmacokinetic, Drug Metabolism and Toxicologic Assessments..
ISSN: 1568-0266.
DOCUMENT TYPE: Journal
TREATMENT CODE: General Review
FILE SEGMENT: W3
LANGUAGE: English
SUMMARY LANGUAGE: English

AB The advent of more efficient methods to synthesize and **screen** new chemical compounds is increasing the number of chemical **leads** identified in the drug discovery phase. Compounds with good biological activity may fail to become drugs due to insufficient oral absorption. Selection of drug development candidates with adequate absorption characteristics should increase the probability of success in the development phase. To assess the absorption potential of new chemical entities numerous in vitro and in vivo model systems have been used. Many laboratories rely on cell culture models of intestinal permeability such as, Caco-2, HT-29 and MDCK. To attempt to increase the throughput of permeability measurements, several physicochemical methods such as, **immobilized** artificial membrane (IAM) columns and parallel artificial membrane permeation assay (PAMPA) have been used. More recently, much attention has been given to the development of computational methods to predict drug absorption. However, it is clear that no single method will sufficient for studying drug absorption, but most likely a combination of systems will be needed. Higher throughput, less reliable methods could be used to discover 'loser' compounds, whereas lower throughput, more accurate methods could be used to optimize the absorption properties of **lead** compounds. Finally, accurate methods are needed to understand absorption mechanisms (efflux -limited absorption, carrier-mediated, intestinal metabolism) that may limit intestinal drug absorption. This information could be extremely valuable

to medicinal chemists in the selection of favorable chemo-types. This review describes different techniques used for evaluating drug absorption and indicates their advantages and disadvantages.

L19 ANSWER 8 OF 12 BIOTECHNO COPYRIGHT 2004 Elsevier Science B.V. on STN
DUPLICATE
ACCESSION NUMBER: 2000:30220191 BIOTECHNO
TITLE: A disposable amperometric sensor **screen** printed on a nitrocellulose strip: A glucose biosensor employing **lead** oxide as an interference-removing agent
AUTHOR: Cui G.; Sang Jin Kim; Sung Hyuk Choi; Nam H.; Geun Sig Cha; Paeng K.-J.
CORPORATE SOURCE: G.S. Cha, Chemical Sensor Research Group, Department of Chemistry, Kwangwoon University, 447-1 Wolgye-Dong, Nowon-Ku, Seoul 139-701, South Korea.
SOURCE: Analytical Chemistry, (15 APR 2000), 72/8 (1925-1929)
CODEN: ANCHAM ISSN: 0003-2700
DOCUMENT TYPE: Journal; Article
COUNTRY: United States
LANGUAGE: English
SUMMARY LANGUAGE: English
AN 2000:30220191 BIOTECHNO
AB A new type of disposable amperometric sensor is devised by **screen** printing thick-film electrodes directly on a porous nitrocellulose (NC) strip. The chromatographic NC strip is then utilized to introduce various sample pretreatment layers. As a preliminary application, a glucose biosensor based on hydrogen peroxide detection is constructed by **immobilizing** glucose oxidase (GOx) on the NC electrode strip and by formulating a strong oxidation layer (i.e., PbO.sub.2) at the sample loading area, placed below the GOx reaction band. The **screen** -printed PbO.sub.2 paste serves as a sample pretreatment layer that removes interference by its strong oxidizing ability. Samples applied are carried chromatographically, via the PbO.sub.2 paste, to the GOx layer, and glucose is catalyzed to liberate hydrogen peroxide, which is then detected at the electrode surface. The proposed NC/PbO.sub.2 strip sensor is shown to be virtually insusceptible to interfering species such as acetaminophen and ascorbic and uric acids and to exhibit good performance, in terms of the sensor-to-sensor reproducibility (standard deviation, ±0.026-±0.086 μA), the sensitivity (slope, -0.183 μA/mM), and the linearity (correlation coefficient, 0.994 in the range of 0-10 mM).

L19 ANSWER 9 OF 12 BIOTECHNO COPYRIGHT 2004 Elsevier Science B.V. on STN
ACCESSION NUMBER: 2000:30069062 BIOTECHNO
TITLE: Biosensor analysis of drug-target interactions: Direct and competitive binding assays for investigation of interactions between thrombin and thrombin inhibitors
AUTHOR: Karlsson R.; Kullman-Magnusson M.; Hamalainen M.D.; Remaeus A.; Andersson K.; Borg P.; Gyzander E.; Deinum J.
CORPORATE SOURCE: R. Karlsson, Biacore AB, Rapsgatan 7, SE-754 50 Uppsala, Sweden.
E-mail: robert.karlsson@eu.biacore.com
SOURCE: Analytical Biochemistry, (01 FEB 2000), 278/1 (1-13), 15 reference(s)
CODEN: ANBCA2 ISSN: 0003-2697
DOCUMENT TYPE: Journal; Article
COUNTRY: United States
LANGUAGE: English
SUMMARY LANGUAGE: English
AN 2000:30069062 BIOTECHNO
AB The sensitivity of BIACORE technology is sufficient for detection and characterization of binding events involving low-molecular-weight

compounds and their **immobilized** protein targets. The technology requires no labeling and provides information on the stability of the compound/target complex with a single injection of the compound. This is useful for qualifying hits obtained in a primary **screen** and in **lead** optimization. Although **immobilized** targets can be reused, the surface may slowly deteriorate, solvent effects can distort binding levels during injection of compounds, and some compounds may exhibit broad protein selectivity rather than target specificity. A reliable direct binding assay for compounds binding to **immobilized** thrombin using a combination of two reference surfaces, a dextran surface for subtraction and calibration of solvent effects and a protein surface for identification of compounds that tend to bind proteins, has been developed. Eleven compounds with known binding specificity to thrombin and 159 additional compounds were investigated. All compounds with known binding specificity were identified at 1 and 10 μM concentration. One additional compound was scored as positive. The direct binding assay compared favorably with two competitive assay formats, a surface competitive assay and a inhibitor in solution assay, that were examined in parallel.

L19 ANSWER 10 OF 12 PASCAL COPYRIGHT 2004 INIST-CNRS. ALL RIGHTS RESERVED. on STN

ACCESSION NUMBER: 1998-0045605 PASCAL
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TITLE (IN ENGLISH): Biochemical detection for direct bead surface analysis
AUTHOR: LUTZ E. S. M.; IRTH H.; TJADEN U. R.; VAN DER GREEF J.
CORPORATE SOURCE: Division of Analytical Chemistry, Leiden/Amsterdam Center for Drug Research, Leiden University, P.O. Box 9502, 2300 RA Leiden, Netherlands
SOURCE: Analytical chemistry : (Washington, DC), (1997), 69(23), 4878-4884, 23 refs.
ISSN: 0003-2700 CODEN: ANCHAM
DOCUMENT TYPE: Journal
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: United States
LANGUAGE: English
AVAILABILITY: INIST-120B, 354000079516850220
AN 1998-0045605 PASCAL
CP Copyright .COPYRGT. 1998 INIST-CNRS. All rights reserved.
AB A continuous-flow biochemical detection system is presented which recognizes biologically active compounds **immobilized** to solid phases. This approach can be used to **screen**, for example, solid-phase combinatorial libraries for **lead** compounds. Biochemical detection is performed by mixing a plug of a solid-phase suspension with labeled affinity protein. During a short reaction time, the labeled affinity protein will only bind to ligands, i.e., compounds with biological activity. Hereafter, the free and bound labels are separated by means of a hollow fiber module. Quantitation of the free label is performed with a conventional flow-through fluorescence detector. Total assay time amounts to less than 3 min. Biochemical detection for direct bead surface analysis was developed for two model systems. The first model system used fluorescence-labeled avidin as affinity protein and its ligands biotin and iminobiotin **immobilized** to agarose as analytes. The second model system used fluorescence-labeled antisheep (Fab).sub.2 fragments as affinity protein and different IgGs **immobilized** to agarose as analytes. The feasibility of this approach for recognition of solid-phase **immobilized** ligands was documented by screening 50 samples with a 100% hit rate.

L19 ANSWER 11 OF 12 PASCAL COPYRIGHT 2004 INIST-CNRS. ALL RIGHTS RESERVED. on STN

ACCESSION NUMBER: 1996-0121747 PASCAL

TITLE (IN ENGLISH): Poly(methylene blue)-modified thick-film gold electrodes for the electrocatalytic oxidation of NADH and their applications in glucose biosensors
AUTHOR: SILBER A.; HAMPP N.; SCHUHMANN W.
CORPORATE SOURCE: Ludwig-Maximilians-Univ. Muenchen, Inst. physikalische Chemie, 80333 Muenchen, Germany, Federal Republic of
SOURCE: Biosensors & bioelectronics, (1996), 11(3), 215-223, 18 refs.
ISSN: 0956-5663
DOCUMENT TYPE: Journal
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: United Kingdom
LANGUAGE: English
AVAILABILITY: INIST-20668, 354000052553600020
AN 1996-0121747 PASCAL

AB Electropolymerization of the phenothiazine derivative methylene blue (MB) on **screen**-printed, thick-film gold electrodes **leads** to electrocatalytically active and conducting layers of poly(methylene blue) (PMB) in intimate and stable contact with the electrode surface. The catalytic properties of the PMB films allow anodic oxidation of NADH at potentials as low as +200 mV vs. the saturated calomel electrode (SCE) reducing interferences from co-oxidizable species as well as minimizing electrode fouling by enabling a simultaneous two-electron transfer mechanism. Dehydrogenase-based biosensors employing PMB-modified thick-film electrodes are obtained either by entrapment of the enzyme into the PMB layer itself or by laminating an enzyme membrane made of an aqueous poly(vinylacetate) dispersion over the PMB-modified electrode. Both methods are used to fabricate glucose biosensors which can be operated at low overpotentials, i.e. +200 mV vs. SCE.

L19 ANSWER 12 OF 12 LIFESCI COPYRIGHT 2004 CSA on STN DUPLICATE 6
ACCESSION NUMBER: 97:58960 LIFESCI
TITLE: Development of **screen**-printed enzyme electrodes for the estimation of fish quality
AUTHOR: Chemnitius, G.C.; Bilitewski, U.
CORPORATE SOURCE: Inst. Chem. and Biochem. Sensor Res., Mendelstrasse 7, D-48149 Muenster, Germany
SOURCE: SENSORS ACTUATORS B: CHEM., (1996) vol. B32, no. 2, pp. 107-113.
ISSN: 0925-4005.
DOCUMENT TYPE: Journal
FILE SEGMENT: Q4
LANGUAGE: English
SUMMARY LANGUAGE: English
AB Enzyme electrodes for the determination of biogenic amines have been developed using monoamine oxidase (MAO) from Aspergillus niger and putrescine oxidase (PO) from Micrococcus rubens. Determination is based on the electrochemical oxidation of enzymatically produced H sub(2)O sub(2) at **screen**-printed platinum electrodes. The enzymes are **immobilized** on silanized electrodes by cross-linking with glutaraldehyde. Compositions of the immobilization mixtures are optimized with respect to stability, sensitivity and selectivity of the sensors. The electrodes using MAO as the biochemical component respond to several amines including histamine, an important amine in the determination of fish freshness. The PO electrodes show a significant response not only to putrescine and its homologue cadaverine but also to tyramine, an electrochemically active amine. The optimal buffer for both types of amine oxidase electrodes is Clark and Lubs (C + L) buffer pH 8.5. Simultaneous determination of the substrates of both enzymes can be accomplished by **immobilizing** PO and MAO onto different working electrodes of the same sensor. The sensors have been used to monitor the freshness of

mackerel and codfish in storage. As expected, sensor signals increase with storage time of the fish, indicating the production of biogenic amines. During storage of mackerel, mainly histamine is produced, which **leads** to an increase in the signals obtained with the MAO electrodes. On the other hand, the putrefaction process of codfish during storage is detected mainly by the PO electrodes. All results are confirmed by comparison with HPLC data.

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L10            1 FILE AGRICOLA
L11            6 FILE BIOTECHNO
L12            0 FILE CONFSCI
L13            0 FILE HEALSAFE
L14            0 FILE IMSDRUGCONF
L15            3 FILE LIFESCI
L16            0 FILE MEDICONF
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L17 9 FILE PASCAL

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L19 ANSWER 1 OF 12 LIFESCI COPYRIGHT 2004 CSA on STN DUPLICATE 1
ACCESSION NUMBER: 2004:76236 LIFESCI
TITLE: Polychlorinated Biphenyls (PCBs) Detection in Food Samples Using an Electrochemical Immunosensor
AUTHOR: Laschi, S.; Mascini, M.; Scortichini, G.; Franek, M.; Mascini, M.
CORPORATE SOURCE: Dipartimento di Chimica, Universita degli Studi di Firenze, Via della Lastruccia 3, 50019, Sesto Fiorentino, Firenze (Italy)
SOURCE: Journal of Agricultural and Food Chemistry [J. Agric. Food Chem.], (20030300) vol. 51, no. 7, pp. 1816-1822. ISSN: 0021-8561.
DOCUMENT TYPE: Journal
FILE SEGMENT: X
LANGUAGE: English
SUMMARY LANGUAGE: English
AB In this work, a disposable electrochemical immunosensor, based on a competitive assay scheme, was applied to detect polychlorinated biphenyls (PCBs) in food. For this purpose, antibodies against PCBs were directly **immobilized** onto the carbon surface of a disposable **screen** -printed electrode. A competition between the PCBs present in the sample and a fixed concentration of an enzyme-labeled PCB was realized and evaluated by electrochemical detection. Alkaline phosphatase was used as the enzyme label, coupled with differential pulse voltammetry (DPV) as the electrochemical technique. The immunosensor was tested on aroclor mixture detection (1242 and 1248) and then on some typologies of food samples to evaluate the possible application for real sample analysis. Samples analyzed were from different matrixes, such as sheep milk, bovine adipose tissue, and bovine muscle. Results obtained were compared with the accredited results according to ISO 17025 methods for PCB detection (HRGC-LRMS) as a confirmatory analysis. Preliminary results show the possibility to use this device as a screening method in food sample analysis. The negligible matrix effect observed may **lead** to a simplified extraction procedure, and considerable time and consumable savings are the immediate benefits given by the proposed method.

L19 ANSWER 2 OF 12 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2004) on STN DUPLICATE 2
ACCESSION NUMBER: 2003:23784 AGRICOLA
DOCUMENT NUMBER: IND23316286
TITLE: Studies on **chromium** (VI) adsorption-desorption using **immobilized** fungal biomass.
AUTHOR(S): Bai, R.S.; Abraham, T.E.
AVAILABILITY: DNAL (TD930.A32)
SOURCE: Bioresource technology, Mar 2003. Vol. 87, No. 1. p. 17-26

Publisher: Oxford, U.K. : Elsevier Science Limited.
CODEN: BIRTEB; ISSN: 0960-8524
NOTE: Includes references
PUB. COUNTRY: England; United Kingdom
DOCUMENT TYPE: Article
FILE SEGMENT: Non-U.S. Imprint other than FAO
LANGUAGE: English

AB The aim of this study was to investigate the Cr(VI) biosorption potential of **immobilized** Rhizopus nigricans and to **screen** a variety of non-toxic desorbing agents, in order to find out possible application in multiple sorption-desorption cycles. The biomass was **immobilized** by various mechanisms and evaluated for removal of Cr(VI) from aqueous solution, mechanical stability to desorbents, and reuse in successive cycles. The finely powdered biomass, entrapped in five different polymeric matrices viz. calcium alginate, polyvinyl alcohol (PVA), polyacrylamide, polyisoprene, and polysulfone was compared for biosorption efficiency and stability to desorbents. Physical immobilization to polyurethane foam and coir fiber was less efficient than polymer entrapment methods. Of the different combinations (%, w/v) of biomass dose compared for each matrix, 8% (calcium alginate), 6% (polyacrylamide and PVA), 12% (polyisoprene), and 10% (polysulfone) were found to be the optimum. The Cr sorption capacity (mg Cr/g sorbent) of all **immobilized** biomass was lesser than the native, powdered biomass. The Cr sorption capacity decreased in the order of free biomass (119.2) > polysulfone entrapped (101.5) > polyisoprene **immobilized** (98.76) > PVA **immobilized** (96.69) > calcium alginate entrapped (84.29) > polyacrylamide (45.56), at 500 mg/l concentration of Cr(VI). The degree of mechanical stability and chemical resistance of the **immobilized** systems were in the order of polysulfone > polyisoprene > PVA > polyacrylamide > calcium alginate. The bound Cr(VI) could be eluted successfully using 0.01 N NaOH, NaHCO3, and Na2CO3. The adsorption data for the native and the **immobilized** biomass was evaluated by the Freundlich isotherm model. The successive sorption-desorption studies employing polysulfone entrapped biomass indicated that the biomass beads could be regenerated and reused in more than 25 cycles and the regeneration efficiency was 75-78%.

L19 ANSWER 3 OF 12 BIOTECHNO COPYRIGHT 2004 Elsevier Science B.V. on STN
DUPLICATE
ACCESSION NUMBER: 2002:35232483 BIOTECHNO
TITLE: Microbial biosensor array with transport mutants of Escherichia coli K12 for the simultaneous determination of mono-and disaccharides
AUTHOR: Held M.; Schuhmann W.; Jahreis K.; Schmidt H.-L.
CORPORATE SOURCE: H.-L. Schmidt, Lehrstuhl fur Biologische Chemie, TU Munchen, Vottingerstrasse 40, D-85350 Freising, Germany.
SOURCE: Biosensors and Bioelectronics, (2002), 17/11-12 (1089-1094), 26 reference(s)
CODEN: BBIOE4 ISSN: 0956-5663
PUBLISHER ITEM IDENT.: S0956566302001033
DOCUMENT TYPE: Journal; Article
COUNTRY: United Kingdom
LANGUAGE: English
SUMMARY LANGUAGE: English

AN 2002:35232483 BIOTECHNO

AB An automated flow-injection system with an integrated biosensor array using bacterial cells for the selective and simultaneous determination various mono- and disaccharides is described. The selectivity of the individually addressable sensors of the array was achieved by the combination of the metabolic response, measured as the O.sub.2 consumption, of bacterial mutants of Escherichia coli K12 lacking different transport systems for individual carbohydrates. κ-Carrageenan was used as immobilization matrix for entrapment of

the bacterial cells in front of 6 individually addressable working electrodes of a **screen**-printed sensor array. The local consumption of molecular oxygen caused by the metabolic activity of the **immobilized** cells was amperometrically determined at the underlying **screen**-printed gold electrodes at a working potential of -600 mV vs. Ag/AgCl. Addition of mono- or disaccharides for which functional transport systems exist in the used transport mutant strains of E. coli K12 **leads** to an enhanced metabolic activity of the **immobilized** bacterial cells and to a concomitant depletion of oxygen at the electrode. Parallel determination of fructose, glucose, and sucrose was performed demonstrating the high selectivity of the proposed analytical system. .COPYRGT. 2002 Published by Elsevier Science B.V.

L19 ANSWER 4 OF 12 BIOTECHNO COPYRIGHT 2004 Elsevier Science B.V. on STN
ACCESSION NUMBER: 2002:34174576 BIOTECHNO
TITLE: Diagnostic biochip array for fast and sensitive detection of K-ras mutations in stool
AUTHOR: Prix L.; Uciechowski P.; Bockmann B.; Giesing M.; Schuetz A.J.
CORPORATE SOURCE: A.J. Schuetz, Inst. fur Molekulare NanoTechnologie, Berghauser Strasse 295, 45659 Recklinghausen, Germany. E-mail: a.schuetz@imnt.de
SOURCE: Clinical Chemistry, (2002), 48/3 (428-435), 29 reference(s)
CODEN: CLCHAU ISSN: 0009-9147
DOCUMENT TYPE: Journal; Article
COUNTRY: United States
LANGUAGE: English
SUMMARY LANGUAGE: English
AN 2002:34174576 BIOTECHNO
AB Background: Tumor cells that shed into stool are attractive targets for molecular screening and early detection of colon or pancreatic malignancies. We developed a diagnostic test to **screen** for 10 of the most common mutations of codons 12 and 13 of the K-ras gene by hybridization to a new biochip array. Methods: DNA was isolated from 26 stool samples by column-based extraction from 9 cell lines. Peptide nucleic acid (PNA)-mediated PCR clamping was used for mutant-specific amplification. We used a biochip, consisting of a small plastic support with covalently **immobilized** 13mer oligonucleotides. The read out of the biochip was done by confocal time-resolved laser scanning. Hybridization, scanning, and data evaluation could be performed in <2 h. Results: Approximately 80 ng of DNA was obtained from 200-mg stool samples. No inhibition of the PCR by remaining impurities from stool was observed. Mutation detection was possible in 1000-fold excess of wild-type sequence. Discrimination ratios between the mutations were >19 as demonstrated by hybridization with tumor cell line DNA. Stool samples (n = 26) were analyzed in parallel with PNA-PCR, restriction assay for K-ras codon 12 mutations, sequencing, and hybridization to the biochip. Nine mutations were found by hybridization, all confirmed by sequencing. PNA-PCR alone **leads** to an overestimation of mutations because suppression of the wild type is not effective enough with high concentrations of wild-type DNA. The restriction assay found only four mutations. Conclusions: The K-ras biochip is well suited for fast mutation detection from stool in colorectal cancer screening. .COPYRGT. 2002 American Association for Clinical Chemistry.

L19 ANSWER 5 OF 12 PASCAL COPYRIGHT 2004 INIST-CNRS. ALL RIGHTS RESERVED. on STN
ACCESSION NUMBER: 2002-0292637 PASCAL
COPYRIGHT NOTICE: Copyright .COPYRGT. 2002 INIST-CNRS. All rights reserved.
TITLE (IN ENGLISH): Diagnostic biochip array for fast and sensitive detection of K-ras mutations in stool

AUTHOR: PRIX Lothar; UCIECHOWSKI Peter; BOECKMANN Beatrix; GIESING Michael; SCHUETZ Andreas J.
CORPORATE SOURCE: Institut fuer Molekulare NanoTechnologie, Berghaeuser Strasse 295, 45659 Recklinghausen, Germany, Federal Republic of
SOURCE: Clinical chemistry : (Baltimore, Md.), (2002), 3(48), 428-435, 29 refs.
ISSN: 0009-9147 CODEN: CLCHAU
DOCUMENT TYPE: Journal
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: United States
LANGUAGE: English
AVAILABILITY: INIST-7603, 354000100284300070
AN 2002-0292637 PASCAL

AB Background: Tumor cells that shed into stool are attractive targets for molecular screening and early detection of colon or pancreatic malignancies. We developed a diagnostic test to **screen** for 10 of the most common mutations of codons 12 and 13 of the K-ras gene by hybridization to a new biochip array. Methods: DNA was isolated from 26 stool samples by column-based extraction from 9 cell lines. Peptide nucleic acid (PNA)-mediated PCR clamping was used for mutant-specific amplification. We used a biochip, consisting of a small plastic support with covalently **immobilized** 13mer oligonucleotides. The read out of the biochip was done by confocal time-resolved laser scanning. Hybridization, scanning, and data evaluation could be performed in <2 h. Results: Approximately 80 ng of DNA was obtained from 200-mg stool samples. No inhibition of the PCR by remaining impurities from stool was observed. Mutation detection was possible in 1000-fold excess of wild-type sequence. Discrimination ratios between the mutations were >19 as demonstrated by hybridization with tumor cell line DNA. Stool samples (n = 26) were analyzed in parallel with PNA-PCR, restriction assay for K-ras codon 12 mutations, sequencing, and hybridization to the biochip. Nine mutations were found by hybridization, all confirmed by sequencing. PNA-PCR alone **leads** to an overestimation of mutations because suppression of the wild type is not effective enough with high concentrations of wild-type DNA. The restriction assay found only four mutations. Conclusions: The K-ras biochip is well suited for fast mutation detection from stool in colorectal cancer screening.

L19 ANSWER 6 OF 12 BIOTECHNO COPYRIGHT 2004 Elsevier Science B.V. on STN DUPLICATE
ACCESSION NUMBER: 2002:34142295 BIOTECHNO
TITLE: **Immobilized** receptor- and transporter-based liquid chromatographic phases for on-line pharmacological and biochemical studies: A mini-review
AUTHOR: Moaddel R.; Lu L.; Baynham M.; Wainer I.W.
CORPORATE SOURCE: I.W. Wainer, National Institute on Aging, National Institute of Healths, Gerontology Research Center, 5600 Nathan Shock Drive, Baltimore, MD 21224-6825, United States.
E-mail: wainerir@grc.nia.nih.gov
SOURCE: Journal of Chromatography B: Analytical Technologies in the Biomedical and Life Sciences, (2002), 768/1 (41-53), 43 reference(s)
CODEN: JCBAAI ISSN: 1570-0232
PUBLISHER ITEM IDENT.: S0378434701004844
DOCUMENT TYPE: Journal; General Review
COUNTRY: Netherlands
LANGUAGE: English
SUMMARY LANGUAGE: English
AN 2002:34142295 BIOTECHNO
AB This review addresses the synthesis and characterization of two different types of receptor-based liquid chromatographic supports, one based upon a

trans-membrane ligand gated ion channel receptor (the nicotinic acetylcholine receptor) and the other a soluble nuclear receptor (the estrogen receptor). In addition, studies with the P-glycoprotein transporter are also reported. The nicotinic receptor was **immobilized** via hydrophobic insertion into the interstitial spaces of an **immobilized** artificial membrane (IAM) stationary phase, the estrogen receptor was tethered to a hydrophilic stationary phase and the membranes containing the Pgp transporter were coated on the surface of the IAM stationary phase. The stationary phases were characterized using known ligands and substrates for the respective non-**immobilized** proteins. The results from zonal and frontal chromatographic experiments demonstrated that the stationary phases could be used to determine binding affinities (expressed as dissociation constants, K.sub.d's) and to resolve mixtures of ligands according to their relative affinities. In addition, competitive ligand binding studies on the P-glycoprotein-based stationary phase have established that this phase can be used to identify and characterize competitive displacement and allosteric interactions. These studies demonstrate that **immobilized**-receptor phases can be used for on-line pharmacological studies and as rapid **screens** for the isolation and identification of **lead** drug candidates from complex biological or chemical mixtures.

L19 ANSWER 7 OF 12 LIFESCI COPYRIGHT 2004 CSA on STN
ACCESSION NUMBER: 2002:53611 LIFESCI
TITLE: Assessing the Absorption of New Pharmaceuticals
AUTHOR: Hidalgo, I.J.
CORPORATE SOURCE: Absorption Systems, LP, 440 Creamery Way, Suite 300, Exton, PA 19341, USA; E-mail: hidalgo@absorption.com
SOURCE: Current Topics in Medicinal Chemistry [Curr. Top. Med. Chem.], (20011100) vol. 1, no. 5, pp. 385-401. Compound Optimization in Early and Late-Phase Drug Discovery: Physiochemical, Pharmacokinetic, Drug Metabolism and Toxicologic Assessments..
ISSN: 1568-0266.
DOCUMENT TYPE: Journal
TREATMENT CODE: General Review
FILE SEGMENT: W3
LANGUAGE: English
SUMMARY LANGUAGE: English

AB The advent of more efficient methods to synthesize and **screen** new chemical compounds is increasing the number of chemical **leads** identified in the drug discovery phase. Compounds with good biological activity may fail to become drugs due to insufficient oral absorption. Selection of drug development candidates with adequate absorption characteristics should increase the probability of success in the development phase. To assess the absorption potential of new chemical entities numerous in vitro and in vivo model systems have been used. Many laboratories rely on cell culture models of intestinal permeability such as, Caco-2, HT-29 and MDCK. To attempt to increase the throughput of permeability measurements, several physicochemical methods such as, **immobilized** artificial membrane (IAM) columns and parallel artificial membrane permeation assay (PAMPA) have been used. More recently, much attention has been given to the development of computational methods to predict drug absorption. However, it is clear that no single method will sufficient for studying drug absorption, but most likely a combination of systems will be needed. Higher throughput, less reliable methods could be used to discover 'loser' compounds, whereas lower throughput, more accurate methods could be used to optimize the absorption properties of **lead** compounds. Finally, accurate methods are needed to understand absorption mechanisms (efflux -limited absorption, carrier-mediated, intestinal metabolism) that may limit intestinal drug absorption. This information could be extremely valuable

to medicinal chemists in the selection of favorable chemo-types. This review describes different techniques used for evaluating drug absorption and indicates their advantages and disadvantages.

L19 ANSWER 8 OF 12 BIOTECHNO COPYRIGHT 2004 Elsevier Science B.V. on STN
DUPLICATE
ACCESSION NUMBER: 2000:30220191 BIOTECHNO
TITLE: A disposable amperometric sensor **screen** printed on a nitrocellulose strip: A glucose biosensor employing **lead** oxide as an interference-removing agent
AUTHOR: Cui G.; Sang Jin Kim; Sung Hyuk Choi; Nam H.; Geun Sig Cha; Paeng K.-J.
CORPORATE SOURCE: G.S. Cha, Chemical Sensor Research Group, Department of Chemistry, Kwangwoon University, 447-1 Wolgye-Dong, Nowon-Ku, Seoul 139-701, South Korea.
SOURCE: Analytical Chemistry, (15 APR 2000), 72/8 (1925-1929)
CODEN: ANCHAM ISSN: 0003-2700
DOCUMENT TYPE: Journal; Article
COUNTRY: United States
LANGUAGE: English
SUMMARY LANGUAGE: English
AN 2000:30220191 BIOTECHNO
AB A new type of disposable amperometric sensor is devised by **screen** printing thick-film electrodes directly on a porous nitrocellulose (NC) strip. The chromatographic NC strip is then utilized to introduce various sample pretreatment layers. As a preliminary application, a glucose biosensor based on hydrogen peroxide detection is constructed by **immobilizing** glucose oxidase (GOx) on the NC electrode strip and by formulating a strong oxidation layer (i.e., PbO.sub.2) at the sample loading area, placed below the GOx reaction band. The **screen** -printed PbO.sub.2 paste serves as a sample pretreatment layer that removes interference by its strong oxidizing ability. Samples applied are carried chromatographically, via the PbO.sub.2 paste, to the GOx layer, and glucose is catalyzed to liberate hydrogen peroxide, which is then detected at the electrode surface. The proposed NC/PbO.sub.2 strip sensor is shown to be virtually insusceptible to interfering species such as acetaminophen and ascorbic and uric acids and to exhibit good performance, in terms of the sensor-to-sensor reproducibility (standard deviation, ±0.026-±0.086 μA), the sensitivity (slope, -0.183 μA/mM), and the linearity (correlation coefficient, 0.994 in the range of 0-10 mM).

L19 ANSWER 9 OF 12 BIOTECHNO COPYRIGHT 2004 Elsevier Science B.V. on STN
ACCESSION NUMBER: 2000:30069062 BIOTECHNO
TITLE: Biosensor analysis of drug-target interactions: Direct and competitive binding assays for investigation of interactions between thrombin and thrombin inhibitors
AUTHOR: Karlsson R.; Kullman-Magnusson M.; Hamalainen M.D.; Remaeus A.; Andersson K.; Borg P.; Gyzander E.; Deinum J.
CORPORATE SOURCE: R. Karlsson, Biacore AB, Rapsgatan 7, SE-754 50 Uppsala, Sweden.
E-mail: robert.karlsson@eu.biacore.com
SOURCE: Analytical Biochemistry, (01 FEB 2000), 278/1 (1-13), 15 reference(s)
CODEN: ANBCA2 ISSN: 0003-2697
DOCUMENT TYPE: Journal; Article
COUNTRY: United States
LANGUAGE: English
SUMMARY LANGUAGE: English
AN 2000:30069062 BIOTECHNO
AB The sensitivity of BIACORE technology is sufficient for detection and characterization of binding events involving low-molecular-weight

compounds and their **immobilized** protein targets. The technology requires no labeling and provides information on the stability of the compound/target complex with a single injection of the compound. This is useful for qualifying hits obtained in a primary **screen** and in **lead** optimization. Although **immobilized** targets can be reused, the surface may slowly deteriorate, solvent effects can distort binding levels during injection of compounds, and some compounds may exhibit broad protein selectivity rather than target specificity. A reliable direct binding assay for compounds binding to **immobilized** thrombin using a combination of two reference surfaces, a dextran surface for subtraction and calibration of solvent effects and a protein surface for identification of compounds that tend to bind proteins, has been developed. Eleven compounds with known binding specificity to thrombin and 159 additional compounds were investigated. All compounds with known binding specificity were identified at 1 and 10 μM concentration. One additional compound was scored as positive. The direct binding assay compared favorably with two competitive assay formats, a surface competitive assay and a inhibitor in solution assay, that were examined in parallel.

L19 ANSWER 10 OF 12 PASCAL COPYRIGHT 2004 INIST-CNRS. ALL RIGHTS RESERVED. on STN

ACCESSION NUMBER: 1998-0045605 PASCAL
COPYRIGHT NOTICE: Copyright .COPYRGT. 1998 INIST-CNRS. All rights reserved.
TITLE (IN ENGLISH): Biochemical detection for direct bead surface analysis
AUTHOR: LUTZ E. S. M.; IRTH H.; TJADEN U. R.; VAN DER GREEF J.
CORPORATE SOURCE: Division of Analytical Chemistry, Leiden/Amsterdam Center for Drug Research, Leiden University, P.O. Box 9502, 2300 RA Leiden, Netherlands
SOURCE: Analytical chemistry : (Washington, DC), (1997), 69(23), 4878-4884, 23 refs.
ISSN: 0003-2700 CODEN: ANCHAM
DOCUMENT TYPE: Journal
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: United States
LANGUAGE: English
AVAILABILITY: INIST-120B, 354000079516850220

AN 1998-0045605 PASCAL
CP Copyright .COPYRGT. 1998 INIST-CNRS. All rights reserved.
AB A continuous-flow biochemical detection system is presented which recognizes biologically active compounds **immobilized** to solid phases. This approach can be used to **screen**, for example, solid-phase combinatorial libraries for **lead** compounds. Biochemical detection is performed by mixing a plug of a solid-phase suspension with labeled affinity protein. During a short reaction time, the labeled affinity protein will only bind to ligands, i.e., compounds with biological activity. Hereafter, the free and bound labels are separated by means of a hollow fiber module. Quantitation of the free label is performed with a conventional flow-through fluorescence detector. Total assay time amounts to less than 3 min. Biochemical detection for direct bead surface analysis was developed for two model systems. The first model system used fluorescence-labeled avidin as affinity protein and its ligands biotin and iminobiotin **immobilized** to agarose as analytes. The second model system used fluorescence-labeled antisheep (Fab).sub.2 fragments as affinity protein and different IgGs **immobilized** to agarose as analytes. The feasibility of this approach for recognition of solid-phase **immobilized** ligands was documented by screening 50 samples with a 100% hit rate.

L19 ANSWER 11 OF 12 PASCAL COPYRIGHT 2004 INIST-CNRS. ALL RIGHTS RESERVED. on STN

ACCESSION NUMBER: 1996-0121747 PASCAL

COPYRIGHT NOTICE: Copyright .COPYRGT. 1996 INIST-CNRS. All rights reserved.
TITLE (IN ENGLISH): Poly(methylene blue)-modified thick-film gold electrodes for the electrocatalytic oxidation of NADH and their applications in glucose biosensors
AUTHOR: SILBER A.; HAMPP N.; SCHUHMANN W.
CORPORATE SOURCE: Ludwig-Maximilians-Univ. Muenchen, Inst. physikalische Chemie, 80333 Muenchen, Germany, Federal Republic of
SOURCE: Biosensors & bioelectronics, (1996), 11(3), 215-223, 18 refs.
ISSN: 0956-5663
DOCUMENT TYPE: Journal
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: United Kingdom
LANGUAGE: English
AVAILABILITY: INIST-20668, 354000052553600020
AN 1996-0121747 PASCAL
CP Copyright .COPYRGT. 1996 INIST-CNRS. All rights reserved.
AB Electropolymerization of the phenothiazine derivative methylene blue (MB) on **screen**-printed, thick-film gold electrodes **leads** to electrocatalytically active and conducting layers of poly(methylene blue) (PMB) in intimate and stable contact with the electrode surface. The catalytic properties of the PMB films allow anodic oxidation of NADH at potentials as low as +200 mV vs. the saturated calomel electrode (SCE) reducing interferences from co-oxidizable species as well as minimizing electrode fouling by enabling a simultaneous two-electron transfer mechanism. Dehydrogenase-based biosensors employing PMB-modified thick-film electrodes are obtained either by entrapment of the enzyme into the PMB layer itself or by laminating an enzyme membrane made of an aqueous poly(vinylacetate) dispersion over the PMB-modified electrode. Both methods are used to fabricate glucose biosensors which can be operated at low overpotentials, i.e. +200 mV vs. SCE.

L19 ANSWER 12 OF 12 LIFESCI COPYRIGHT 2004 CSA on STN DUPLICATE 6
ACCESSION NUMBER: 97:58960 LIFESCI
TITLE: Development of **screen**-printed enzyme electrodes for the estimation of fish quality
AUTHOR: Chemnitius, G.C.; Bilitewski, U.
CORPORATE SOURCE: Inst. Chem. and Biochem. Sensor Res., Mendelstrasse 7, D-48149 Muenster, Germany
SOURCE: SENSORS ACTUATORS B: CHEM., (1996) vol. B32, no. 2, pp. 107-113.
ISSN: 0925-4005.
DOCUMENT TYPE: Journal
FILE SEGMENT: Q4
LANGUAGE: English
SUMMARY LANGUAGE: English
AB Enzyme electrodes for the determination of biogenic amines have been developed using monoamine oxidase (MAO) from Aspergillus niger and putrescine oxidase (PO) from Micrococcus rubens. Determination is based on the electrochemical oxidation of enzymatically produced H sub(2)O sub(2) at **screen**-printed platinum electrodes. The enzymes are **immobilized** on silanized electrodes by cross-linking with glutaraldehyde. Compositions of the immobilization mixtures are optimized with respect to stability, sensitivity and selectivity of the sensors. The electrodes using MAO as the biochemical component respond to several amines including histamine, an important amine in the determination of fish freshness. The PO electrodes show a significant response not only to putrescine and its homologue cadaverine but also to tyramine, an electrochemically active amine. The optimal buffer for both types of amine oxidase electrodes is Clark and Lubs (C + L) buffer pH 8.5. Simultaneous determination of the substrates of both enzymes can be accomplished by **immobilizing** PO and MAO onto different working electrodes of the same sensor. The sensors have been used to monitor the freshness of

mackerel and codfish in storage. As expected, sensor signals increase with storage time of the fish, indicating the production of biogenic amines. During storage of mackerel, mainly histamine is produced, which **leads** to an increase in the signals obtained with the MAO electrodes. On the other hand, the putrefaction process of codfish during storage is detected mainly by the PO electrodes. All results are confirmed by comparison with HPLC data.

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FULL ESTIMATED COST                                     32.83      33.04

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L23           8 FILE EMBASE
L24       31066 FILE USPATFULL

TOTAL FOR ALL FILES
L25       31138 (LEAD OR MERCURY OR CHROMIUM OR CADIMIUM) AND SCREEN AND (IMMOBI
                LIZED OR IMMOBILIZING OR IMMOBILIZE OR COAT)

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PROCESSING COMPLETED FOR L21
PROCESSING COMPLETED FOR L22
PROCESSING COMPLETED FOR L23
L26           48 DUP REM L20-23 (24 DUPLICATES REMOVED)

=> l26 and py<2001
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L28           30 FILE CAPLUS
L29            2 S L26
L30            1 FILE BIOSIS
L31            2 S L26
L32            1 FILE MEDLINE
L33            1 S L26
L34            1 FILE EMBASE
L35            0 S L26
L36            0 FILE USPATFULL

TOTAL FOR ALL FILES
L37           33 L26 AND PY<2001
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=> d l37 ibib abs total

L37 ANSWER 1 OF 33 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2000:375085 CAPLUS
TITLE: The color cathode ray tube which possesses built-in resolution resistance. [Machine Translation].
INVENTOR(S): Ota, Kazuki; Hayashi, Kazuo
PATENT ASSIGNEE(S): Matsushita Electronics Corp., Japan; Nippon Hydrogene Kogyo K. K.
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000156176	A2	20000606	JP 1998-328213	19981118 <--
JP 3527112	B2	20040517		

PRIORITY APPLN. INFO.: JP 1998-328213 19981118

AB [Machine Translation of Descriptors]. The trimming which adjusts the resistance resolution ratio of the built-in resolution resistance to which the television and display et cetera are used for the color cathode ray tube improves, administers sparking treatment and it makes the built-in resolution resistance to which resistance resolution ratio does not fluctuate, offers the color cathode ray tube which can obtain high resolution in all of the fluorescent material **screen** surface. Excluding the 1st electric insulation **coat** layer (4) which the covering is done and that vicinity which includes the electrode section excluding the vicinity which in the pattern of the zigzag condition which includes the ruthenium acid **lead** on the electric insulation baseplate (1) of the ceramics make and this electric insulation baseplate (1) possesses the electrode section (3 a-d) in the trimming section, and the place home position of the baseplate which to the resistor layer (2) and this resistor layer (2) which the formation are done connected formed at the same time includes the electrode section on the 1st electric insulation **coat** layer the covering are done the 2nd electric insulation **coat** layer (5), and the back of the baseplate which It makes the built-in resolution resistance which includes the 3rd electric insulation **coat** layer (6).

L37 ANSWER 2 OF 33 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2000:241677 CAPLUS
DOCUMENT NUMBER: 132:259375
TITLE: Capacitance-coupled high dielectric constant embedded capacitors
INVENTOR(S): Liberatore, Michael James; Sreeram, Attiganal Narayanaswamy; Prabhu, Ashok Narayan; Kim, In-tae; Mun, Je-do; Park, Sung-dae; Park, Yun-hwi; Yu, Joo-dong; Tormey, Ellen S.
PATENT ASSIGNEE(S): Sarnoff Corporation, USA; Daewoo Electronics Co., Ltd.
SOURCE: PCT Int. Appl., 16 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000021102	A1	20000413	WO 1999-US22890	19991001 <--
W: CA, MX				

RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE

CA 2345764	AA	20000413	CA 1999-2345764	19991001 <--
CA 2346041	AA	20000413	CA 1999-2346041	19991001 <--
WO 2000021101	A2	20000413	WO 1999-US23208	19991001 <--
WO 2000021101	A3	20000727		

W: CA, MX

RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE

KR 2000028775	A	20000525	KR 1999-42260	19991001 <--
KR 2000052335	A	20000825	KR 1999-42261	19991001 <--
EP 1118076	A2	20010725	EP 1999-950196	19991001

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI

EP 1135783	A1	20010926	EP 1999-953023	19991001

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI

PRIORITY APPLN. INFO.:	US 1998-102773P	P 19981002
	WO 1999-US22890	W 19991001
	WO 1999-US23208	W 19991001

AB High dielec. constant capacitors are made from a dielec. ink (30, 32, 34) of Pb-Mg-niobate and **lead** oxide powders with a suitable organic vehicle which can be used to **coat** one or more glass-based green tapes. Buried capacitors are made by coating an overlying and an underlying green tape with a conductor (36, 38, 40, 42) such as Ag. Capacitors can also be made by adjusting the organic vehicle and forming a green tape from the dielec. powders. These dielec. green tapes each can be coated with a conductive layer and stacked, the conductive layers connected in parallel. The resultant multilayer capacitors have a very high dielec. constant, while eliminating the need for very large area capacitors, as compared to single layer capacitors.

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 3 OF 33 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER:	2000:188672 CAPLUS
DOCUMENT NUMBER:	133:2095
TITLE:	A Disposable Amperometric Sensor **Screen** Printed on a Nitrocellulose Strip: A Glucose Biosensor Employing **Lead** Oxide as an Interference-Removing Agent
AUTHOR(S):	Cui, Gang; Kim, Sang Jin; Choi, Sung Hyuk; Nam, Hakhyun; Cha, Geun Sig; Paeng, Ki-Jung
CORPORATE SOURCE:	Chemical Sensor Research Group Department of Chemistry, Kwangwoon University, Nowon-Ku Seoul, 139-701, S. Korea
SOURCE:	Analytical Chemistry (**2000**), 72(8), 1925-1929 CODEN: ANCHAM; ISSN: 0003-2700
PUBLISHER:	American Chemical Society
DOCUMENT TYPE:	Journal
LANGUAGE:	English

AB A new type of disposable amperometric sensor is devised by **screen** printing thick-film electrodes directly on a porous nitrocellulose (NC) strip. The chromatog. NC strip is then utilized to introduce various sample pretreatment layers. As a preliminary application, a glucose biosensor based on hydrogen peroxide detection is constructed by **immobilizing** glucose oxidase (GOx) on the NC electrode strip and by formulating a strong oxidation layer (i.e., PbO2) at the sample loading area, placed below the GOx reaction band. The **screen**-printed PbO2 paste serves as a sample pretreatment layer that removes interference by its strong oxidizing ability. Samples applied are carried chromatog., via the PbO2 paste, to the GOx layer, and glucose is catalyzed to liberate hydrogen peroxide, which is then detected at the electrode surface. The

proposed NC/PbO2 strip sensor is shown to be virtually insusceptible to interfering species such as acetaminophen and ascorbic and uric acids and to exhibit good performance, in terms of the sensor-to-sensor reproducibility (standard deviation, ±0.026-±0.086 μA), the sensitivity (slope, -0.183 μA/mM), and the linearity (correlation coefficient, 0.994 in the range of 0-10 mM).
REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 4 OF 33 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2000:47952 CAPLUS
DOCUMENT NUMBER: 132:273745
TITLE: Biosensor Analysis of Drug-Target Interactions: Direct and Competitive Binding Assays for Investigation of Interactions between Thrombin and Thrombin Inhibitors
AUTHOR(S): Karlsson, Robert; Kullman-Magnusson, Mari; Hamalainen, Markku D.; Remaeus, Annika; Andersson, Karl; Borg, Peter; Gyzander, Erika; Deinum, Johanna
CORPORATE SOURCE: Biacore AB, Uppsala, SE-754 50, Swed.
SOURCE: Analytical Biochemistry (**2000**), 278(1), 1-13
CODEN: ANBCA2; ISSN: 0003-2697
PUBLISHER: Academic Press
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The sensitivity of BIACORE technol. is sufficient for detection and characterization of binding events involving low-mol.-weight compds. and their **immobilized** protein targets. The technol. requires no labeling and provides information on the stability of the compound/target complex with a single injection of the compound This is useful for qualifying hits obtained in a primary **screen** and in **lead** optimization. Although **immobilized** targets can be reused, the surface may slowly deteriorate, solvent effects can distort binding levels during injection of compds., and some compds. may exhibit broad protein selectivity rather than target specificity. A reliable direct binding assay for compds. binding to **immobilized** thrombin using a combination of two reference surfaces, a dextran surface for subtraction and calibration of solvent effects and a protein surface for identification of compds. that tend to bind proteins, has been developed. Eleven compds. with known binding specificity to thrombin and 159 addnl. compds. were investigated. All compds. with known binding specificity were identified at 1 and 10 μM concentration One addnl. compound was scored as pos. The direct binding assay compared favorably with two competitive assay formats, a surface competitive assay and a inhibitor in solution assay, that were examined in parallel. (c) 2000 Academic Press.
REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 5 OF 33 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1999:563063 CAPLUS
DOCUMENT NUMBER: 131:302350
TITLE: The effect of the solvent on the cross-link density of SiO2 coatings
AUTHOR(S): Mutter, C.; Bernards, T. N. M.; Peeters, M. P. J.; Lammers, J. H.; Bohmer, M. R.
CORPORATE SOURCE: Department of Inorganic Materials and Processing, Philips Research Laboratories Eindhoven, Eindhoven, 5656 AA, Neth.
SOURCE: Thin Solid Films (**1999**), 351(1,2), 95-98
CODEN: THSFAP; ISSN: 0040-6090
PUBLISHER: Elsevier Science S.A.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB With increasing **screen** size of television and computer monitor

tubes the spin-coating of tetraethylorthosilicate (TEOS) based sol-gel coatings becomes an increasingly difficult task. To retain sufficient uniformity and scratch resistance of the coatings, changes in the composition of the coating liqs. and the coating procedures are needed. Changing solvents and adding catalysts can **lead** to increased cross-link d. which has been measured by 29Si-NMR. The cross-link d. increases with increasing average number of hydroxy groups on the Si atoms in the drying phase, which can be tailored by adjusting the water concentration, by using water vapor or by using solvents which do not cause the re-esterification of alkoxy groups on the Si atoms during drying.

REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 6 OF 33 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:802926 CAPLUS
DOCUMENT NUMBER: 130:165114
TITLE: Evolution of peptides that modulate the spectral qualities of bound, small-molecule fluorophores
AUTHOR(S): Rozinov, Michael N.; Nolan, Garry P.
CORPORATE SOURCE: Department of Molecular Pharmacology, Stanford University Medical Center, Stanford, CA, 94305-5332, USA
SOURCE: Chemistry & Biology (**1998**), 5(12), 713-728
CODEN: CBOLE2; ISSN: 1074-5521
PUBLISHER: Current Biology Publications
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Fluorophore dyes are used extensively in biomedical research to sensitively assay cellular constituents and physiol. We have created, as proof of principle, fluorophore dye binding peptides that could have applications in fluorescent dye-based approaches in vitro and in vivo. A panel of Texas red, Rhodamine red, Oregon green 514 and fluorescein binding peptides, termed here "fluorettes", was selected via biopanning of a combinatorial library of 12-mer peptides fused to a minor **coat** pIII protein of the filamentous bacteriophage M13. The "best" fluorette sequences from each of the groups were subjected to further mutagenesis, followed by a second biopanning to select a new generation of improved fluorettes. Phage were selected that had higher avidity for each fluorophore except Rhodamine red. Of these, peptides were characterized that could specifically and with high affinity bind at least one dye, Texas red, in solution In addition, the binding of certain peptides to Texas red shifted the peak excitation and/or the emission spectra of the bound dye. Peptides in the context of phage display could readily be selected that could bind to small-mol. fluorophores. The affinities of selected mutant fluorettes could be increased by mutation and further selection. Only a subset of the free peptides could bind free dyes in solution, suggesting that phage context contributed to the selection and ability of certain peptidic regions to independently bind the dyes. Future **screens** might **lead** to the creation of other dye-binding peptides with novel characteristics or Texas red derivs. with crosslinking substituents might be designed to increase the utility of the system.

REFERENCE COUNT: 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 7 OF 33 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:308207 CAPLUS
DOCUMENT NUMBER: 129:89604
TITLE: Enzyme inhibition based detection of heavy metals using H2O2 electrochemical probes
AUTHOR(S): Compagnone, D.; Palleschi, G.; Imperiali, P.; Varallo, G.
CORPORATE SOURCE: Dipartimento di Scienze e Tecnologie Chimiche,

SOURCE: University of Rome Tor Vergata, Rome, 00133, Italy
Artificial and Natural Perception, Proceedings of the Italian Conference on Sensors and Microsystems, 2nd, Rome, Feb. 3-5, 1997 (**1997**), 74-78.
Editor(s): Di Natale, Corrado; D'Amico, Arnaldo; Davide, Fabrizio A. M. World Scientific: Singapore, Singapore.
CODEN: 66BBAO
DOCUMENT TYPE: Conference
LANGUAGE: English
AB A method for the determination of heavy metals using oxidase enzymes and conventional Pt based or disposable Ru/graphite **screen**-printed H2O2 probes was developed. The inhibition effect on the enzymic activity was related to the concentration of the metal in solution Among the oxidase enzymes tested, glycerol-3-P oxidase, sarcosine oxidase and alc. oxidase from Pichia Pastoris proved to be the most promising. Determination of metal ions such as Hg(II), V(V), Cu(II), Se(IV) and Ni(II) in the low ppm range was achieved using the enzymes in solution and covalently **immobilized** enzymes.
REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 8 OF 33 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:115826 CAPLUS
DOCUMENT NUMBER: 128:208037
TITLE: Transferring sheets having mono- or multiple colors for ceramic articles
INVENTOR(S): Sugimoto, Makoto; Ito, Hiroto
PATENT ASSIGNEE(S): NGK Spark Plug Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10044583	A2	19980217	JP 1996-200240	19960730 <--
PRIORITY APPLN. INFO.:			JP 1996-200240	19960730

AB The transferring sheets are obtained by **screen**-printing cover **coat** ink containing glass powder and a thermoplastic resin on a paper or resin film, drying the cover **coat** ink, **screen** -printing within the area of the cover **coat** ink with an ink containing desired pigments, glass powder, and a thermoplastic resin, and drying.

L37 ANSWER 9 OF 33 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:66273 CAPLUS
DOCUMENT NUMBER: 128:164697
TITLE: Biosensor using carbon-silver mixture as **lead** for electrodes
INVENTOR(S): Goto, Masao; Mure, Hiroki
PATENT ASSIGNEE(S): NOK Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 3 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

JP 10019834	A2	19980123	JP 1996-188439	19960628 <--
JP 3510049	B2	20040322		

PRIORITY APPLN. INFO.: JP 1996-188439 19960628

AB The biosensor comprises an insulating substrate, and an oxidoreductase-**immobilized** C working electrode and a C counter electrode thereon, and a **lead** of one or both of the electrodes is made of C-Ag mixture Use of C-Ag mixture as the material for the **lead** prevents time-dependent discoloration and reduces variation coefficient in measurement. A working electrode, a counter electrode, and a **lead** of the counter electrode were formed on a PET film using C by **screen** printing, and a **lead** of the working electrode was formed using C-Ag equimolar mixture Subsequently a phosphate buffer solution containing glucose oxidase and K3Fe(CN)6 was poured onto the working electrode to give a glucose sensor. The sensor was let stand at room temperature for 30 days to show no discoloration, while a control sensor using Ag as a material for **lead** showed color change from silver to light brown.

L37 ANSWER 10 OF 33 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1997:702336 CAPLUS
DOCUMENT NUMBER: 127:305011
TITLE: Biochemical Detection for Direct Bead Surface Analysis
AUTHOR(S): Lutz, E. S. M.; Irth, H.; Tjaden, U. R.; van der Greef, J.
CORPORATE SOURCE: Division of Analytical Chemistry Leiden/Amsterdam Center for Drug Research, Leiden University, Leiden, 2300 RA, Neth.
SOURCE: Analytical Chemistry (**1997**), 69(23), 4878-4884
CODEN: ANCHAM; ISSN: 0003-2700
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A continuous-flow biochem. detection system is presented which recognizes biol. active compds. **immobilized** to solid phases. This approach can be used to **screen**, for example, solid-phase combinatorial libraries for **lead** compds. Biochem. detection is performed by mixing a plug of a solid-phase suspension with labeled affinity protein. During a short reaction time, the labeled affinity protein will only bind to ligands, i.e., compds. with biol. activity. Hereafter, the free and bound labels are separated by means of a hollow fiber module. Quantitation of the free label is performed with a conventional flow-through fluorescence detector. Total assay time amts. to less than 3 min. Biochem. detection for direct bead surface anal. was developed for two model systems. The first model system used fluorescence-labeled avidin as affinity protein and its ligands biotin and iminobiotin **immobilized** to agarose as analytes. The second model system used fluorescence-labeled antisheep (Fab)2 fragments as affinity protein and different IgGs **immobilized** to agarose as analytes. The feasibility of this approach for recognition of solid-phase **immobilized** ligands was documented by screening 50 samples with a 100% hit rate.

L37 ANSWER 11 OF 33 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1997:610891 CAPLUS
DOCUMENT NUMBER: 127:212290
TITLE: Electroluminescent lighting element with a light-permeable reflection layer and manufacturing method for the same
INVENTOR(S): Ikoma, Heiji; Chikahisa, Yosuke; Tanabe, Koji
PATENT ASSIGNEE(S): Matsushita Electric Industrial Co., Ltd., Japan
SOURCE: Eur. Pat. Appl., 8 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent

LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 794689	A1	19970910	EP 1997-301366	19970228 <--
EP 794689	B1	20010627		
R: DE, FR, GB				
JP 09245966	A2	19970919	JP 1996-45751	19960304 <--
US 5841230	A	19981124	US 1997-804963	19970224 <--
HK 1001654	A1	20010928	HK 1998-100567	19980122
PRIORITY APPLN. INFO.:			JP 1996-45751 A	19960304

AB Electroluminescent lighting elements are described which are fabricated by forming, on an upper surface of an insulating transparent film, a transparent electrode layer, a phosphor layer , a dielec. layer, a back-surface electrode, collecting electrode layers, and an insulating **coat** layer successively in predetd. patterns by repeating **screen** printing operations and applying a light-transmitting reflecting layer (e.g., a layer comprising a pearlescent pigment in a transparent binder) on a lower surface of the insulating transparent film in a predetd. pattern by a printing operation. This reflecting layer allows the elimination of color differences in the light-emitting surface of the lighting elements between turned-on and turned-off conditions, as reflected light produces a surface that appears white when the elements are off while the light emitted by the device gives the devices' surfaces a white color when they are on. The devices are also claimed.

L37 ANSWER 12 OF 33 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:633448 CAPLUS
DOCUMENT NUMBER: 125:326786
TITLE: Development of **screen**-printed enzyme electrodes for the estimation of fish quality
AUTHOR(S): Chemnitius, G. C.; Bilitewski, U.
CORPORATE SOURCE: Department of Enzymology, Gesellschaft fuer Biotechnologische Forschung mbH (GBF), Mascheroder Weg 1, Braunschweig, 38124, Germany
SOURCE: Sensors and Actuators, B: Chemical (**1996**), B32(2), 107-113
CODEN: SABCEB; ISSN: 0925-4005
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Enzyme electrodes for the determination of biogenic amines have been developed using monoamine oxidase (MAO) from Aspergillus niger and putrescine oxidase (PO) from Micrococcus rubens. Determination is based on the electrochem. oxidation of enzymically produced H2O2 at **screen**-printed platinum electrodes. The enzymes are **immobilized** on silanized electrodes by crosslinking with glutaraldehyde. Compns. of the immobilization mixts. are optimized with respect to stability, sensitivity and selectivity of the sensors. The electrodes using MAO as the biochem. component respond to several amines including histamine, an important amine in the determination of fish freshness. The PO electrodes show a significant response not only to putrescine and its homolog cadaverine but also to tyramine, an electrochem. active amine. The optimal buffer for both types of amine oxidase electrodes is Clark and Lubs (C+L) buffer pH 8.5. Simultaneous determination of the substrates of both enzymes can be accomplished by **immobilizing** PO and MAO onto different working electrodes of the same sensor. The sensors have been used to monitor the freshness of mackerel and codfish in storage. As expected, sensor signals increase with storage time of the fish, indicating the production of biogenic amines. During storage of mackerel, mainly histamine is produced, which

leads to an increase in the signals obtained with the MAO electrodes. On the other hand, the putrefaction process of codfish during storage is detected mainly by the PO electrodes. All results are confirmed by comparison with HPLC data.

L37 ANSWER 13 OF 33 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:591385 CAPLUS
DOCUMENT NUMBER: 122:328245
TITLE: Pastes for the production of conductors, resistors, capacitors, or solders, their manufacture, and their use
INVENTOR(S): Krismer, Bruno; Thies, Uwe; Ladstaetter, Peter; Huenert, Rudolf
PATENT ASSIGNEE(S): H.C. Starck GmbH. und Co. KG, Germany
SOURCE: Eur. Pat. Appl., 5 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 643396	A2	19950315	EP 1994-114169	19940909 <--
EP 643396	A3	19950628		
EP 643396	B1	19981230		
R: BE, DE, FR, GB, IE, IT, NL				
DE 4431723	A1	19950323	DE 1994-4431723	19940906 <--
DE 4431723	C2	19970410		
JP 07188602	A2	19950725	JP 1994-239649	19940908 <--
FI 9404171	A	19950314	FI 1994-4171	19940909 <--
IL 110904	A1	19990714	IL 1994-110904	19940909 <--
RU 2144551	C1	20000120	RU 1994-32793	19940909 <--
ZA 9406993	A	19950508	ZA 1994-6993	19940912 <--
CN 1102424	A	19950510	CN 1994-115882	19940913 <--
CN 1052027	B	20000503		
US 5723535	A	19980303	US 1996-733468	19961016 <--

PRIORITY APPLN. INFO.:
DE 1993-4331006 A 19930913
DE 1994-4431723 A 19940906
US 1994-297656 B1 19940829
US 1996-624207 B1 19960403

AB The pastes contain powdered refractory, noble, or transition metals, refractory metal oxides, oxide compds., silicides, or titanates as aqueous suspensions containing water-dilutable nonionogenic rheol. additives in amts. of 0.2-20 weight%, based on the solids content, and are free of binders and organic solvents. They are prepared by dispersing the powdered material in H2O and mixing with an associative thickener. They are used to **coat** substrates by various methods and are patterned by means of **screen** printing or lithog.

L37 ANSWER 14 OF 33 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1992:241619 CAPLUS
DOCUMENT NUMBER: 116:241619
TITLE: A new screening procedure for the estimation of oxidizable organic compounds in water samples
AUTHOR(S): Ruchti, B.; Schramm, C.; Kubitschko, S.; Neidhart, B.
CORPORATE SOURCE: Fachbereich Chem., Philipps-Univ., Marburg, W-3550, Germany
SOURCE: Fresenius' Journal of Analytical Chemistry (**1992**), 342(10), 822-6
CODEN: FJACES; ISSN: 0937-0633
DOCUMENT TYPE: Journal
LANGUAGE: English
AB **Immobilized** PbO2, supported on SiO2, was used as packing

material in a solid phase reactor for oxidation of organic compds. in water samples for flow injection anal. (FIA). Online oxidation in FIA allows detection of mobilized Pb^{2+} either photometrically, after complex formation with 4-(2-pyridylazo)-resorcinol (I) or directly with flame atomic absorption spectrometry (AAS). The oxidation yield is different for a variety of organic compds.; however, calibration was possible in all cases investigated. The system can be used to **screen** polluted waters and as a post-column chemical-reaction detector (e.g., after HPLC-separation of organic compds.). After modification, the FIA determination of COD equivalent values should be possible.

L37 ANSWER 15 OF 33 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1992:216327 CAPLUS
DOCUMENT NUMBER: 116:216327
TITLE: Polyester monofilaments and their use in paper-making **screens**
INVENTOR(S): Higuchi, Michinori; Mitsuyoshi, Takehiko; Iwamoto, Takashi
PATENT ASSIGNEE(S): Toray Industries, Inc., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 03294577	A2	19911225	JP 1990-97307	19900411 <--
PRIORITY APPLN. INFO.:			JP 1990-97307	19900411

OTHER SOURCE(S): MARPAT 116:216327
AB Title monofilaments, flexible with good abrasion resistance, are coated 0.5-20-μm-thick with products obtained by curing the hydrolyzates of $(R1O)_nSi[(R2)_{3-n}]R3X$ (R1 = alkyl, alkoxyalkyl, R2 = C1-6 alkyl, aryl; R3 = C1-10 alkylene, alkylene oxide, polyoxyalkylene; X = epoxy-containing functional group; n = 1-3) with compds. of Fe, Cr, Al, Co and/or Ti via an adhesive layer. Thus, PET monofilaments were dipped in an adhesive emulsion containing Me methacrylate-styrene copolymers and hexamethylolmelamine tri-Me ether, dried at 150°, dipped in a solution containing γ-glycidoxypropyltrimethoxysilane hydrolyzates and Al acetylacetonate, and cured at 160° to form a 3.0 μm-thick **coat**. The filaments showed abrasion resistance (as time until breakage when placed in contact with a rotating ceramic cylinder under load) 50 min and no whitening when bent around a curvature with 5 mm radius vs. 21 and no whitening, resp., for a control coated with methyltrimethoxysilane hydrolyzates.

L37 ANSWER 16 OF 33 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1988:134999 CAPLUS
DOCUMENT NUMBER: 108:134999
TITLE: Fuel-cell electrodes and their manufacture
INVENTOR(S): Kahara, Toshiki; Okada, Hideo; Iwase, Yoshio; Mitsugi, Koichi; Takeuchi, Masahito; Tamura, Koki; Jinbo, Ryutaro
PATENT ASSIGNEE(S): Hitachi, Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

JP 62295355	A2	19871222	JP 1986-135922	19860613 <--
JP 05050819	B4	19930730		

PRIORITY APPLN. INFO.: JP 1986-135922 19860613

AB Porous, elec. conductive ceramic substrates are coated at least on their surface with an electrochem. active material to form fuel-cell electrodes. The ceramic is a compound containing N, B, Si, and/or C; and the electrochem. active material is Pt, Pd, and/or Fe, Cr, Co, Ni, Ag, and/or Cu and/or their oxides. Thus, 100 g 2-μ Cr2N powder was immersed in 1 L aqueous solution containing Ni chloride 50, Na citrate 200, and Na hypophosphite 50 g, and adjusted to pH 10 with NaOH to **coat** the powder with Ni. The coated powder was washed, dried at 100°, made into a paste, applied to a 20-mesh stainless steel **screen**, dried at 100°, and sintered at 800° in N for 15 min to obtain a molten-carbonate fuel-cell anode. A cathode was prepared similarly except for sintering at 800° in air for 1 h to oxidize the Ni coating. When operated at 650° and 150 mA/cm2, a molten-carbonate fuel cell using these electrodes had a stable output voltage for >3500 h whereas that of a control cell dropped significantly after 1000 h.

L37 ANSWER 17 OF 33 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1984:547301 CAPLUS
DOCUMENT NUMBER: 101:147301
TITLE: Biosensor.
PATENT ASSIGNEE(S): Matsushita Electric Works, Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 59128443	A2	19840724	JP 1983-4385	19830114 <--

PRIORITY APPLN. INFO.: JP 1983-4385 19830114

AB An enzyme **immobilized** biosensor is described which consists of enzyme **immobilized** Pt **screen**, coil, or plate with small pores and paired electrodes. Thus, glucose oxidase was **immobilized** on a Pt **screen** (5 + 5 mm) by silane coupling and glutaraldehyde. The paired electrodes also had a Pt **screen** and both electrodes were attached to **lead** wires in glass tubing. The distance between the electrodes is 1 mm. For glucose determination a drop of phosphate buffer (pH 7.5) was placed between the electrodes which hold 20 μL of buffer, and +0.7 V of elec. potential was applied to the enzyme electrode. Then, 5 μL of glucose solution was added to the buffer and the elec. current was measured. The concentration of glucose and the current were linearly related and it was more sensitive than the batch-type or the flow-type determination system with conventional enzyme electrodes. The sucrose was also determined by using invertase and glucose oxidase on the enzyme electrode.

L37 ANSWER 18 OF 33 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1977:125966 CAPLUS
DOCUMENT NUMBER: 86:125966
TITLE: **Lead**-free glaze
INVENTOR(S): Moritsu, Yukikazu; Yamada, Koji
PATENT ASSIGNEE(S): Okuno Chemical Industry Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 52000918	A2	19770106	JP 1975-78949	19750624 <--
JP 57001516	B4	19820111		

PRIORITY APPLN. INFO.: JP 1975-78949 19750624

AB The Pb-free glaze in an organic vehicle (0.5-20 parts solids) containing 90-9.9 glaze mixture (SiO_2 30-40, TiO_2 10-20, M_2O (M = K, Na, and Li) 5-15, B_2O_3 15-25, and Na_2SiF_6 5-20) and 0.1-10% Pd was used to **coat** a glass or ceramic. An electroless plating can be applied on the glazes. Thus, a wet-milled glaze containing SiO_2 36, TiO_2 17, Na_2O 14, B_2O_3 19, Na_2SiF_6 6, ZrO_2 2, P_2O_5 3, and Al_2O_3 3% was mixed with 4% Pd black, kneaded with 1% pine oil base organic vehicle, **screen** printed on a glass, heated, and electroless coated with Ni.

L37 ANSWER 19 OF 33 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1974:33305 CAPLUS
DOCUMENT NUMBER: 80:33305
TITLE: Reserve battery electrodes using bonded active materials
INVENTOR(S): Kilduff, Timothy J.
PATENT ASSIGNEE(S): United States Dept. of the Army
SOURCE: U.S., 6 pp. Continuation-in-part of U.S. 3,629,007 (CA 76;67424d).
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3751301	A	19730807	US 1970-54273	19700713 <--
US 3629007	A	19711221	US 1969-847906	19690806 <--

PRIORITY APPLN. INFO.: US 1969-847906 19690806

AB A method is described for preparing battery electrodes, in which a metal support is coated with a corrosion-resistant elec. conductive material and then with an active material such as PbO_2 dispersed in a resinous binder. The corrosion-resistant elec. conductive underlayer is applied in an amount sufficient to prevent corrosion of the metal support and sufficient to prevent formation of an interfacial resistance barrier between the metal support and the subsequently applied coating. The elec. conductive material is applied to the support in admixt. with a thermosetting resin. Alternatively, the metal support is flash-plated with a metal which is either inert to oxidation when in contact with the active material or forms a conductive oxide in contact with the active material. In the 1st embodiment, the active material is applied to the 1st layer in admixt. with a thermosetting resin. Activation time can be reduced by applying dry PbO_2 particles to the surface of the active material. For example, epoxy resin and Me_2CO were mixed with 2-ethyl-4-methylimidazole and applied to a 0.004-in. thick steel shim by pouring the resin over the steel. The solvent was removed by air drying, and conductive C in $C_2Cl_3F_3$ was sprayed onto the dry resin coating. A 20-lb brass roller preheated to 80° was then rolled over the C to force it through the resin until contact was made with the base metal. The resin was then cured, and the total thickness of the C resin base **coat** was 0.0001-0.0002 in. H_2O was added to Genepoxy a water emulsifiable epoxy resin. A polyamide was then added. The contents were vigorously mixed and emulsified. The emulsion was added to a vessel containing PbO_2 and thoroughly mixed. This mixture was applied to the C-resin base by using a silk **screen**. Immediately after the PbO_2 top **coat** was applied, the composite was heated at 65-70° for 2 hr to cure it. The PbO_2-resin coating

was .apprx.0.007 in. thick. When a load of 240 mA/in.2 was applied, the voltage initially dropped .apprx.0.3 V from its no-load value and then stabilized at .apprx.1.5 V. No significant decrease in voltage occurred until after .apprx.8 min of operation.

L37 ANSWER 20 OF 33 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1973:47190 CAPLUS
DOCUMENT NUMBER: 78:47190
TITLE: Nonflow solder-stop glasses comprising **lead** -zinc borate and ceramic
INVENTOR(S): Dietz, Raymond Louis
PATENT ASSIGNEE(S): Owens-Illinois, Inc.
SOURCE: U.S., 3 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3703386	A	19721121	US 1970-84530	19701027 <--
PRIORITY APPLN. INFO.:			US 1970-84530	19701027

AB A solder stop composition (mask) is prepared which does not exhibit flow during firing at 600-780°. The solder stop is nonporous and contains particulate glass (firing temperature <750°) 60-90 and powdered ceramic (average particle size <5 μ) 10-40 weight %. The glass contains PbO 30-40, B2O3 30-40, ZnO 25-30, and CuO ≤5 weight %. The ceramic contains ≥1 of ZrSiO4, BaZrSiO4, MgZrSiO4, ZnZrSiO4, SiO2, Al2O3, and TiO2. For example, ZrSiO4 (Excelopax) 6.6 g. was dry-blended with fritted glass (containing PbO 34.8, B2O3 36.2, ZnO 28, and CuO 1.0%), 18.75 g. The particle size of the Zr was <1 μ and the particle size of the fritted glass was 5 μ. This blend was mixed with 8.45 g pine oil to form a printing paste. The paste was **screen** printed on an Al2O3 (96%) substrate which had a thermal expansion coefficient of 79 + 10-7/degree which already had a printed and fired Pd-Au conductor. The Pd-Au conductor was fired at 870°. The paste was **screen** printed on the conductor prividing a mask and left only precise areas on the substrate available for soldering. The paste was applied as a single **coat** using a 165 mesh **screen**. The coating was dried at 100° for 10 min and then fired at 770° using 10 min heat up and cool down periods with a peak hold of 5 min. The resulting coating was 1 mil thick and partially crystallized During the initial firing and 3 subsequent refirings the glass coating showed no flow and maintained unmasked areas for soldering. The coating formed a strong bond both with the Al2O3 substrate and with the printed conductor. Without the zircon addition the coating flowed to such an extent that it was not useful as a solder stop.

L37 ANSWER 21 OF 33 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1972:73868 CAPLUS
DOCUMENT NUMBER: 76:73868
TITLE: Protective coating for cables adjacent to a splash zone
INVENTOR(S): Wiswell, George C. Jr.
SOURCE: U.S., 3 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

US 3620861 A 19711116 US 1969-869550 19691027 <--
PRIORITY APPLN. INFO.: US 1969-869550 19691027
AB Deterioration of an armored communication or power cable in a splash zone was prevented by stripping the cable to the **lead** sheath, applying an epoxy resin containing a hardener, wrapping the cable with a porous fabric and applying a 2nd resin **coat** after the first has cured. The cleaned, epoxy-coated **lead** sheath was wrapped with fiberglass **screen** as the porous fabric.

L37 ANSWER 22 OF 33 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1970:533724 CAPLUS
DOCUMENT NUMBER: 73:133724
TITLE: Coating of plastic articles with refractory compounds
INVENTOR(S): Steel, Margaret L.; Eagles, Alan C.
PATENT ASSIGNEE(S): Imperial Chemical Industries Ltd.
SOURCE: Brit., 5 pp.
CODEN: BRXXAA
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
GB 1206771		19700930	GB	19670207 <--

AB The surfaces of sheets or molded shapes of plastics such as Me methacrylate polymers can be provided with transparent hard craze-free coatings up to 50 + 10-4 mm thick, or if transparency is not essential, up to several mils thickness, by exposure under vacuum to the emission from a refractory oxide, carbide, silicide, nitride, boride, glass, or mixture thereof, resulting from electron bombardment. The electron source can be a heated ring filament of Ta or Mo, allowing the electrons to be focussed on the refractory surface electrostatically, with the electrodes shielding the articles to be coated from excessive heat. Primer coatings, such as 300 Å thick Cu which is transparent, or Ni, Cr carbide, or ZrO2, are useful when Pyrex glass is the external hard **coat**. In operation, the plastic article is exposed, inside a vessel evacuated to 10-5 torr, to the general target area of a particulate electron beam emitted from compacted refractory powder at the local point of the gun, the exposure being regulated with a **screen** to periods of a few min to avoid distortion and crazing of the target by excessive heat. Details are given for 22 examples, such as 6 min exposure of a clean dry clear acrylic "Perspex" sheet 6.25 in. above a graphite crucible containing compacted Ti nitride powder, which was evaporated with 100 mA
electron current, 27 A filament current, and 3 kV accelerating voltage, to give an uncrazed transparent water-insensitive film 935 Å thick on the sheet.

L37 ANSWER 23 OF 33 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1970:123038 CAPLUS
DOCUMENT NUMBER: 72:123038
TITLE: Ilmenite-chromite pigments for ferrous metal primers
PATENT ASSIGNEE(S): Galvanol International Co.
SOURCE: Fr., 3 pp.
CODEN: FRXXAK
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 1578727		19690822	FR	19671113 <--

DE 1669171 DE
US 3544346 19700000 US <--

AB Powdered mixts. of raw ores containing 0.5-99.5% ilmenite (I) and 99.5-0.5% chromite (II) give pigments for primers that impart better corrosion protection and have more hiding power than red **lead** (III). The preferred mixts. contain 25-75% I and the rest II and are ground to particles sized to pass a **screen** with openings ≤0.047 mm. Thus, a primer was made by usual methods, consisting of a powdered I-II mixture 72.5, tung oil 18.5, boiled linseed oil 3, and whilte spirit 6, along with a control pigmented with the same weight% of III. Both primers were applied on sep. mild steel test panels in 2 **coats**, and the dry panels were compared by using British Standard tests for resistance to salt spray, to SO2 and to H2O; in all tests, the control gave poorer results. Fillers and suspending agents may be added to compns. containing I and II. I-II pigment mixts. and priming compns. containing them are claimed.

L37 ANSWER 24 OF 33 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1968:472169 CAPLUS
DOCUMENT NUMBER: 69:72169
TITLE: Glass composition insulated conductors and coils
INVENTOR(S): Pendleton, Wesley W.; Ostrander, George W.
PATENT ASSIGNEE(S): Anaconda Wire and Cable Co.
SOURCE: U.S., 6 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3398004	A	19680820	US 1964-337553	19640114 <--

PRIORITY APPLN. INFO.: US 1964-337553 19640114

AB Magnet wire for elec. coils to operate at 800-900° and resistant to γ-rays and fast neutrons is made with Ni-alloy (such as Inconel)-cald Ag conductors coated with a dispersion of alkali and B-free glass frit with added refractory material, suspended in an organic resin solution After the coils are wound, the organic components are eliminated by firing, followed by fusing of the glass frit. Thus, the glass frit is prepared by mixing BaO 45, SiO2 38, Al2O3 2.2, CaO 9.0, ZnO 5.8, all in parts by weight Next, 72-80 parts of this frit is mixed with 20-8 parts Cr2O3, and ball milled 96-168 hrs. The final particle size should be ≤72 μ and pass a 200-mesh **screen**. This mixture is dispersed in silicone-modified polyester resin solution (Dow-Corning DC-1090), and then applied to the conductor in the conventional multiple **coats** and cured. After the coils are wound, the organic part is eliminated in a furnace at 500° in alternate 15-min. cycles of air and vacuum, and the glass is fused at 900° for 10 min. The ratio of the inorg. to organic content of the dispersion depends on the conductor size. For a Number 30 A.W.G. (American Wire Gage) wire the ratio should be 1:1, and for a Number 18 wire, 0.25:1.

L37 ANSWER 25 OF 33 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1961:30515 CAPLUS
DOCUMENT NUMBER: 55:30515
ORIGINAL REFERENCE NO.: 55:5991g,5992a-c
TITLE: Perfluorochloroolefin polymer primers
INVENTOR(S): Long, Lamar E.
PATENT ASSIGNEE(S): Minnesota Mining and Manufacturing Co.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2961341		19601122	US	<--

AB Chemical resistant and heat-stable primer compns. are made from homopolymers of perfluorochloroolefins (I) or copolymers of I with H-containing halogenated olefins and a Co oxide, e.g. CoO, Co2O3, or Co3O4. These primers can be used under topcoats of I without use of an intermediate mixed **coat** of polymer and adhesive or they may be used by themselves as a single-**coat** system. The preferred polymers are the homopolymer of chlorotrifluoroethylene (II) or the copolymer of II and vinylidene fluoride; the copolymer should contain at least 80 mole % II. These polymers are solid and have no-strength temps. of >250° and mol. wts. >50,000. They are dispersed as a finely divided powder passing through a number 200 sieve in a solvent such as toluene, MeCOEt, AmOAc, or H2O in combination with BuOH. Co oxide should pass through a 300-mesh **screen** and is dispersed in the same solvents as the polymers. The preferred ratio of polymer to Co oxide is between 3:0.5 and 3:2. For improved thermal stability, a Cr oxide, Mo oxide, and (or) Mo sulfide may be added. The Co oxide decreases the chemical resistance but improves the adhesion of the coating to such substrates as metal, concrete, glass, and plastics which withstand temps. up to 600°. Low-mol.-weight polymers and telomers of I as plasticizers and chromic oxide or polyurethans to improve the bonding strength may be used, as well as inert fillers.

L37 ANSWER 26 OF 33 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1957:7076 CAPLUS
DOCUMENT NUMBER: 51:7076
ORIGINAL REFERENCE NO.: 51:1508c-d
TITLE: Structural materials for use as armor
INVENTOR(S): Toulmin, Harry A., Jr.
PATENT ASSIGNEE(S): Commonwealth Engineering Co. of Ohio
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2758952		19560814	US	<--

AB Fibers are blown onto a **screen** to form a mat which is then heated and exposed to an atmospheric of a heat-decomposable metal-containing compound
The metal layer formed over the fibers is continuous and resistant to shearing by projectiles. The products can be used for personnel shielding, armor plate for vehicles, table tops, housings, or in any operation where a high impact resistance plus lightness in weight are requirements. Some useful plating materials are Ni(CO)4, Cr(CO)6, Mo(CO)6, W(CO)6, and Cu(C5H7O2)2. Glass or SiO2 fibers are preferred and it is desirable to **coat** the metalized assemblies with a resinous material, preferably a polyester having a high degree of adherence to metal.

L37 ANSWER 27 OF 33 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1943:6453 CAPLUS
DOCUMENT NUMBER: 37:6453
ORIGINAL REFERENCE NO.: 37:1097e-f
TITLE: A field test for quicksilver
AUTHOR(S): Fansett, George R.
SOURCE: Mining Congress Journal (**1942**), 28(No. 11), 28
CODEN: MCJOAV; ISSN: 0026-5160
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
AB These tests are described: (1) Heating Hg ore with soda in a closed tube

forms metallic globules of Hg on the sides of the tube. (2) Most Hg compds., if moistened with HCl and rubbed on bright Cu surfaces, will **coat** the Cu. (3) Boiling Hg ore with HCl, adding MnO2 and dipping a bright piece of Cu into this solution forms a layer of Hg on the Cu. (4) Powdering and heating the ore, illuminating it with ultraviolet light and placing a willemite-coated **screen** behind the sample produces a dense shadow on the **screen** as the Hg volatilizes; in the absence of Hg the willemite **screen** fluoresces a uniform strong green over the surface.

L37 ANSWER 28 OF 33 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1937:19269 CAPLUS
DOCUMENT NUMBER: 31:19269
ORIGINAL REFERENCE NO.: 31:2703f-i,2704a-i,2705a-d
TITLE: American Society for Testing Materials, Tentative Standards
SOURCE: (**1936**), 1390 pp.
DOCUMENT TYPE: Book
LANGUAGE: Unavailable
AB cf. C. A. 30, 2279.7. Tentative standards are given for structural-Ni, rivet, coldrolled strip and concrete-reinforcement steels; steel rail accessories and forgings for locomotives; steel wheels; C- steel castings; boiler tubes of elec.-resistance-welded steel, open-hearth Fe and seamless steel; steel and alloy-steel (4-6% Cr) heat-exchanger and condenser tubes; steel pipe flanges for general service; alloy-steel (4-6% Cr) and low-C steel still tubes for refineries; steel bolting material and nuts for high-temperature service; corrosion-resisting Cr and Cr-Ni steel castings and sheet, strip and plate steels; galvanized coatings on hardware and fastenings; Preece test for uniformity of coating on galvanized Fe or steel wire; electrodeposited coatings of Zn, Cd, Ni and Cr on steel; wrought-Fe bars, plates, rivets and rivet rounds; cast and malleable Fe including castings, culvert pipe and wheels; terms relating to cast Fe; Al, Al-alloy and Al-Mn alloy sheet and plate; Al-alloy ingots, castings, shapes, bars and rods; Mg ingot and stick for remelting; Mg-alloy sheet, castings, ingot for remelting, forgings, bars, rods and shapes; brass and bronze including castings for turntables, locomotive parts and journal bearings; phosphor bronze including bearings and expansion plates; Cu-Ni alloy condenser tubes and ferrule stock; Cu-Si alloy plates, sheets, wire, rods, bars and shapes; Pb-coated Cu sheets; Cu wire and cable; die castings of Al-, Pb-, Sn-, Mg- and Zn-base alloys; test for flexivity of thermoflex (thermostatic metals); test for linear expansion of metals; masonry cement; analysis of and fineness test for portland cement; test for compressive strength of portland-cement mortars; CaO and Ca(OH)2 for structural purposes; sand for use in plaster; terms relating to the gypsum ind.; brick from clay or shale; glazed building units; testing brick(modulus of rupture, compressive strength and absorption); sampling, compression and tension testing of, and terms relating to, natural building stone; testing of high-temperature heat insulation; test for resistance to spalling of superduty fireclay brick; terms relating to refractories; symbols for heat tranmission; concrete irrigation and culvert pipe; terms relating to clay sewer pipe; concrete aggregates and test for fineness thereof; test for coal and lignite in sand; flexure tests of concrete; test for flow of portland-cement concrete; test for soundness of concrete aggregates by use of Na2SO4 or MgSO4; determination of sp. gr., absorpton and voids in concrete aggregates; terms relating to concrete and concrete aggregates; classification of coals; designating the size of coal from its **screen** analysis; test for grindability of coal, test for **screen** analysis of coal; definition of coke; definition of gross and net calorific values of fuels; timber and timber preservatives including ZnCl2; basic sulfate blue **lead**; tests for hiding power of white pigments and of paints; petroleum spirits; soybean oil; testing of oleoresinous varnishes; testing of nitrocellulose-base solns. and lacquer and lacquer enamels; wood for use in weather tests of paints and

varnishes; fuel oils; tests for color of lubricating oils, petrolatum and refined petroleum oil; test for knock of motor fuels; determination of neutralization number of petroleum products and lubricants; test for expressible oil and moisture in paraffin waxes; test for penetration of greases and petrolatum; test for S in petroleum oils; tests for vapor pressure of gasolines; viscosity-temperature chart for liquid petroleum products; terms relating to petroleum; asphalt cement of various penetrations for use in road and pavement construction; asphalt filler for brick pavements; concrete for pavements; emulsified asphalt and its testing; mineral filler for sheet asphalt and bituminous concrete pavement; sand, gravel and stone for various road-building purposes; tar; tar cement; test for abrasion of gravel; test for consistency of portland-cement concrete; bituminous paving plant inspection; surveying and sampling soils for use in place as subgrades for highways; preparing soil samples as received from the field for mech. analysis and the determination of the subgrade soil consts.; mech. analysis of soils; tests for liquid limit, plastic limit, plasticity index, moisture equivs. and shrinkage factors of soils; asphalt roofing materials surfaced with various kinds of mineral granules and the testing thereof; asphalt for roofs and for water-proofing; coal-tar pitches for roofing and for waterproofing; creosote for priming **coat** with coal-tar pitch in waterproofing; primer for use with asphalt in waterproofing; test for coarse particles in mixts. of asphalt and mineral matter; varnished tape and tubing used in elec. insulation and tests therefor; testing solid filling and treating compds., laminated round rods and tubes, molding powders, paper, sheet and plate materials, shellac and varnishes used for elec. insulation; testing sheet, tape and molded insulating materials for dielec. strength; tests for resistance to impact power factor, dielec. constant and thermal conductivity of elec.-insulating materials; grading mica; determination of saponification number of elec.-insulating oils; test for conducting paths in elec. slate; test for thickness of solid elec. insulation; rubber friction tape,insulating tape and pump valves; rubber-insulated wire and cable; phys. testing of rubber products; tension testing of vulcanized rubber; tests for accelerated aging, adhesion, compression set, abrasion resistance and flexing of rubber or rubber products; identification of fibers in textiles and quant. analysis of textiles; tests for properties of cotton fibers; test for fastness of dyed or printed fabrics to washing; tests and tolerances for carded cotton goods, woven tapes and rayon; test for strength of rayon woven fabric when wet; test for shrinkage of silk and rayon woven goods; test for resistance to yarn slippage in silk and rayon goods; test for fineness of wool; testing of pile floor covering; test for Cu and Mn in textiles; terms relating to textile materials; bend testing for ductility of metals; compression, impact and tension tests of metallic materials; analysis of particle-size distribution of sub-sieve size particulate substances; test for softening point by ring-and-ball apparatus; consistency and plasticity terms; and the term **screen** (sieve). Tentative revisions of standards are given for alloy-steel bolting material for high-temperature service; slab Zn; Mn-bronze ingots and castings; CaO and Ca(OH)2 for structural purposes; concrete sewer pipe; building brick; testing brick; determination of voids in cement aggregate; fire-clay refractories; terms relating to sand, refractories and the gypsum ind.; lithopone; raw tung oil; sampling and testing shellac; analysis of white linseed-oil paints; broken slag for water-bound base and wearing course; block for granite pavements; chafer tire fabrics; testing and tolerances for tire cord; testing molded materials used for elec. insulation; testing elec.-insulating oils; sampling and analysis of coal and coke; terms relating to coal and coke; and terms relating to timber preservatives.

L37 ANSWER 29 OF 33 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1931:19751 CAPLUS

DOCUMENT NUMBER: 25:19751
ORIGINAL REFERENCE NO.: 25:2210e-i,2211a-i,2212a-i
TITLE: American Society for Testing Materials, Standards
SOURCE: (1930), (two parts), 2214 pp.
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable

AB Standard specifications are given for: open-hearth C-steel rails; manufacture of open-hearth steel girder rails; splice bars of various types of C steel; track bolts and spikes of various kinds of steel; steel screw spikes and tie plates; structural steel of various types and uses; rivet steel for boilers and for ships; boiler and firebox steel; steel plates of structural and of flange quality for forge welding; billet-steel and rail-steel concrete reenforcement bars; cold-drawn steel wire for concrete reenforcement; com. hot-rolled bar steels; com. cold-finished bar steels and shafting; C-steel bars for railway springs with and without special Si requirements; C-steel bars for vehicle and general-purpose springs; silico-Mn-steel and chrome-V-steel bars for railway springs; helical springs and elliptical springs for railways; C-steel and alloy-steel forgings and blooms, billets and slabs for forgings; quenched and-tempered C-steel and alloy-steel forgings for locomotives and cars; C-steel car and tender axles; cold-rolled steel axles; wrought solid C-steel wheels for railways; steel tires and castings; C-steel castings for railroads; lap-welded and seamless steel and lap-welded Fe boiler tubes; welded and seamless steel pipe; C, high-speed, and alloy tool steel; C-steel castings for valves, flanges and fittings for high-temperature service; alloy-steel bolting material for high-temperature service; forged or rolled steel pipe flanges and lap-welded and seamless steel pipe for high-temperature service; Zn coatings on structural steel shapes, plates and bars and their products; Zn-coated (gàlvanized) sheets, telephone and telegraph line wire, tie wires, fencing, barb wire and steel wire strand; welded wrought-Fe pipe; staybolt, engine-bolt and extra-refined wrought-Fe bars; hollow-rolled staybolt Fe; common Fe bars; wrought-Fe plates; wrought-Fe rolled or forged blooms and forgings for locomotives and cars; Fe and steel chain; foundry pig Fe; cast-Fe pipe and special castings, soil pipe and fittings, locomotive cylinders, and wheels; malleable castings; gray-Fe castings; the arbitration test bar and tension test specimen for cast-Fe; W powder; spiegeleisen; ferro-Mn; ferro-Si; ferro-Cr; ferro-V; wire bars, cakes, slabs, billets, ingots and ingot bars of lake Cu and of electrolytic Cu; slab Zn; rolled Zn; pig Pb; Ni; Al for use in the manufacture of Fe and steel; Al ingots for remelting; Al sheet; phosphor Sn; phosphor Cu; silicon Cu; hot-rolled Cu rods for wire drawing; Cu wire of various kinds; bare Cu cable; bronze trolley wire; an alloy of Cu 88, Sn 10 and Zn 2%; sand castings of an alloy of Cu 88, Sn 8 and Zn 4%; bronze bearing metal; bronze castings; composition brass or oz-metal sand castings; yellow brass sand castings; Mn-bronze sand castings and ingots for sand castings; Al-bronze castings; solder metal; Ag and brazing solders; white metal bearing alloys (Babbitt metal); lined car and tender journal bearings; Cu plates for locomotive fireboxes; Cu bars for locomotive staybolts; seamless boiler tubes of Cu and of brass; seamless admiralty condenser tubes and ferrule stock; seamless condenser tubes and ferrule stock of 70-30 brass and of Muntz metal; Muntz metal condenser-tube plates; Cu pipe and seamless tubes; brass pipe and forging rods; free-cutting brass rod for use in screw machines; cartridge brass; cartridge brass disks; naval brass rods for structural purposes; sheet high brass; non-ferrous insect-**screen** cloth; portland cement; natural cement; CaO and Ca(OH)2 for structural purposes and for use in the cooking of rags for paper manufacture; CaO for use in the manufacture of sulfite pulp; Ca(OH)2 for the manufacture of varnish; CaO and Ca(OH)2 for use in the textile industry, for the manufacture of SiO2 brick, and for use in water treatment; gypsum; calcined gypsum; calcined gypsum for use in preparation of dental plasters; Keene's cement; gypsum plasters for various uses; gypsum plastering sand, wall board, plaster board and partition tile; building brick; paving brick; clay sewer brick and pipe; clay fire brick for various uses; cement-concrete sewer

pipe; drain tile; specifications and test for hollow burned-clay wall tile, floor tile and fireproofing, partition and furring tile; raw linseed oil; Perilla oil; gum spirits of turpentine; steam-distilled and destructively distilled wood turpentine; Zn oxide; leaded Zn oxide; basic carbonate and basic sulfate white **leads**; red **lead**; mineral Fe oxide; ocher; lithopone; lampblack; bone black; chrome yellow; pure chrome green; reduced chrome green; chrome oxide green; Prussian blue; ultramarine blue; com. para red; materials for cement grout filler for brick and stone block pavements; materials for cement mortar bed for brick, stone block, wood block, asphalt block and other block pavements; block for various types of granite pavement; gravel for bituminous concrete base; broken stone and broken slag for various uses for roads; sand for sheet asphalt and bituminous concrete pavements; high-C and low-C tar for surface treatment (hot and cold application); high-C and low-C tar cements; coal-tar pitch for stone block filler; gas and coking coals; foundry coke; structural wood; wooden paving blocks; asphalts and primer (for use with asphalt) for use in damp-proofing and waterproofing; high-C coal-tar pitches and high-bitumen coal-tar pitches for use in damp-proofing and waterproofing; high-C coal-tar pitch and high-bitumen coal-tar pitch for use in constructing built-up roofs surfaced with slag or gravel; creosote oil for priming **coat** with coal-tar pitch in damp-proofing and waterproofing; asphalt mastic for use in waterproofing; acid-resisting asphalt mastic; bituminous grout for use in waterproofing; woven cotton fabrics and burlap saturated with bituminous substances for use in waterproofing; asphalt roll-roofing surfaced with powdered tale or with granular talc; asphalt roll-roofing and asphalt shingles surfaced with mineral granules; asphalt-saturated and coal-tar-saturated roofing felts for use in water-proofing and in constructing built-up roofs; asphalt-saturated asbestos felt for use in constructing built-up roofs; air hose for use with pneumatic tools; wrapped cold-water hose; rubber gloves for elec. workers; rubber matting for use around elec. apparatus or circuits; rubber pump valves; friction tape for general use for elec. purposes; textile testing machines; tolerances and test methods for single and plied cotton yarns, for elec. cotton yarns, for cotton sewing threads, for certain light and medium cotton fabrics, for tire fabrics other than cord fabrics, for tire cord (woven and on cones), for elec. silk and cotton tapes and for asbestos yarns; tolerances for numbered cotton duck, for 23/5/3 carded American tire cord and for hose ducks and belt ducks; specifications and tests for Osnaburg cement sacks; A. S. T. M. partial-immersion thermometer for general use for various temperature intervals; sieves for testing purposes. Standard methods are given for: sampling rolled and forged steel products for check analyses; chemical anal. of plain C steel, of alloy steels, of ferro-alloys, of slab Zn (spelter), of pig Pb, of Ni, and of alloys of Pb, Sn, Sb and Cu; chemical anal. of Mn bronze, of gun metal, of brass ingots and sand castings and of bronze bearing metals; determining weight of coating on Zn-coated articles and on Sn, terne, and Pb-coated sheets; test for magnetic properties of Fe and steel; testing Zn-coated (galvanized) Fe and steel wire and wire products; sampling and chemical anal. of pig and cast Fe; sampling ferro-alloys; battery assay of Cu; test for resistivity of metallic materials for resistors; test for change of resistance with temperature of metallic materials for elec. heating; metallog. testing of Fe and steel and of non-ferrous metals and alloys; verification of testing machines; Brinell hardness testing of metallic materials; testing cement; chemical anal. of limestone, quicklime and hydrated lime; sampling, inspection, packing and marking of quick lime and lime products; testing gypsum and gypsum products; making and storing compression test specimens of concrete in the field; making compression tests of concrete; securing specimens of hardened concrete from the structure; tests for unit weight of aggregate for concrete, for determination of voids in fine aggregate for concrete, for organic impurities in sands for concrete, for sieve anal. of aggregates for concrete, for approx. apparent sp. gr. of fine aggregate, for approx.

percentage of voids in inundated fine aggregate, for surface moisture in fine aggregate, for refractory materials under load at high temps., for porosity and permanent volume changes in refractory materials, and for softening point of fire-clay brick; ultimate chemical anal. of refractory materials, including chrome ores and chrome brick; sampling and testing turpentine; test for sp. gr. of pigments; test for coarse particles in dry pigments and coarse particles and skins in mixts. of pigments and vehicles; testing oleo-resinous varnishes; test for flash point of volatile inflammable liqs.; routine analyses of white pigments, of white linseed oil paints, of dry red **lead**, of Ti pigments, of dry Cu2O and of dry HgO; routine anal. of yellow, orange, red and brown pigments containing Fe and Mn; routine anal. of yellow and orange pigments containing Cr compds., blue pigments and chrome green; anal. for the color characteristics of paints in terms of fundamental phys. units; test for determination of toluene-insol. matter in rosin (chiefly sand, chips, dirt and bark); abridged volume-correction table for petroleum oils; anal. of grease; tests for burning quality of kerosene oils, of long-time burning oil for railway use, and of mineral seal oil; tests for C residue of petroleum products (Conradson C residue), for cloud and pour points of petroleum products, for detection of free S and corrosive S compds. in gasoline, for the determination of autogenous ignition temps., for the distillation of natural-gas gasoline, for flash point by means of the Pensky-Martens closed tester, for flash and fire points by means of open cup, for m. ps. of paraffin wax and petrolatum, for saponification number, for steam emulsion of lubricating oils, for S in petroleum oils heavier than illuminating oil, for thermal value of fuel oil, for viscosity of petroleum products and lubricants, for water in petroleum products and other bituminous materials, for water and sediment in petroleum products by centrifugal means, and for the distillation of gasoline, naphtha, kerosene and similar petroleum products; testing gas oils (sp. gr., distillation, S, C residue, pour point, viscosity, water); tests for abrasion and toughness of rock and for apparent sp. gr. of coarse aggregates and of sand, stone and slag screenings, and other fine non-bituminous highway materials; decantation test for sand and other fine aggregates; test for quantity of clay and silt in gravel for highway construction; test for the determination of moisture equivalent of subgrade soils in the field; sampling stone, slag, gravel, sand and stone block for use as highway materials; mech. anal. of broken stone, broken slag, sand or other fine highway material or mixts. of materials, except aggregates used in cement concrete; form of specifications for certain com. grades of broken stone; test for the determination of bitumen; test for the determination of proportion of bitumen soluble in CCl_4; tests for loss on heating of oil and asphaltic compds., for distillation of bituminous materials suitable for road treatment, for penetration of bituminous material, for softening point of bituminous materials (ring and ball method) and for softening point of tar products (cube-in-water method); float test for bituminous materials; test for sp. gr.of road oils, road tars, asphalt cements and soft tar pitches; test for sp. gr. of asphalts and tar pitches sufficiently solid to be handled in fragments; sampling bituminous materials; sampling coal; laboratory sampling and anal. of coal and coke; tests for fineness of powdered coal, for sieve anal. of crushed bituminous coal and of coke, for cu. ft. weight of crushed bituminous coal and of coke, and for volume of cell space of lump coke; shatter test for coke; tumbler test for coke; testing small clear specimens of timber; conducting static tests of timbers in structural sizes; sampling and anal. of creosote oil; tests for coke residue and distillation of creosote oil; chemical anal. of $ZnCl_2$; testing bituminous mastics,

grouts and like mixts.; test for steam distillation of bituminous protective coatings; testing felted and woven fabrics saturated with bituminous substances for use in waterproofing and roofing; testing molded insulating materials, elec. porcelain, elec. insulating oils, rubber products and woven textile fabrics; verification of testing machines. Recommended practices are given for: annealing of rolled and forged C-steel objects; heat treatment of C-steel castings; carburizing and heat treatment of carburized objects; radiog. testing of metal castings; laying sewer pipe. Standard definitions are given for: terms relating to heat-treatment operations, to wrought-Fe specifications, to metallog., to methods of testing, to sp. gr., to lime, to the gypsum industry, to refractories, to sewer pipe, to hollow tile, to paint specifications, to materials for roads and pavements, to coal and coke, to timber and to textile materials; the terms sand and slate; clay refractories. A standard rule is given for governing the preparation of micrographs of metals and alloys, including recommended practice for photog. as applied to metallog.

L37 ANSWER 30 OF 33 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1926:15603 CAPLUS
DOCUMENT NUMBER: 20:15603
ORIGINAL REFERENCE NO.: 20:1911d-e
TITLE: Metallic zinc powder as a paint pigment
AUTHOR(S): Nelson, H. A.; McKim, W. A.
CORPORATE SOURCE: New Jersey Zinc Co.
SOURCE: Research Bull. (**1926**) 26 pp
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
AB Results are given of practical tests: on steel and galvanized structures, as primer or as final **coat** on sections of a large industrial water tank; on buildings where the old paint was badly cracked; as a primer on sappy redwood; for miscellaneous purposes such as on **screens**, canvas roofs, etc., and Zn dust as a pigment in lacquer enamels; and as a tinting pigment in white-house paints. Among the conclusions are: Zn dust is at least equal to any other rust-inhibitive metal primer; it makes a gray finish paint of very high hiding power; and the film maintains its distensibility over long periods of time. For ordinary painting the proportion of ZnO is 10-25% of the weight of the pigment. Low acid number linseed oil should be used and acid driers must be avoided. The paints are easily prepared and cost considerably less than red **lead** paints.

L37 ANSWER 31 OF 33 BIOSIS COPYRIGHT (c) 2004 The Thomson Corporation. on STN
ACCESSION NUMBER: 1983:271507 BIOSIS
DOCUMENT NUMBER: PREV198376028999; BA76:28999
TITLE: TANDEM DYE LIGAND CHROMATOGRAPHY AND BIOSPECIFIC ELUTION APPLIED TO THE PURIFICATION OF GLUCOSE 6 PHOSPHATE DEHYDROGENASE EC-1.1.1.49 FROM LEUCONOSTOC-MESENTEROIDES.
AUTHOR(S): HEY Y [Reprint author]; DEAN P D G
CORPORATE SOURCE: DEP BIOCHEM, UNIV LIVERPOOL, PO BOX 147, LIVERPOOL L69 3BX, UK
SOURCE: Biochemical Journal, (1983) Vol. 209, No. 2, pp. 363-372. ISSN: 0264-6021.
DOCUMENT TYPE: Article
FILE SEGMENT: BA
LANGUAGE: ENGLISH
AB A total of 65 **immobilized** triazine dyes were screened for their ability to purify the dual nucleotide-specific glucose-6-phosphate dehydrogenase (EC 1.1.1.49) from L. mesenteroides. From this **screen** a negative (Matrex Gel Purple A) and a positive (Matrex Gel Orange B) adsorbent were the best in terms of overall purification and yield and were therefore combined to give the best purification. Glucose-6-phosphate dehydrogenase from L. mesenteroides was purified 56-fold in a 2-step tandem chromatographic system using Matrex Gel Purple

A followed by Matrex Gel Orange B chromatography to a specific activity of 228 units/mg of protein in a final yield of 73%. A study of the elution characteristics of glucose-6-phosphate dehydrogenase bound to Matrex Gel Orange B by KCl (pulse and gradient) and biospecific eluents (pulse) was carried out. NADP+, NADPH and adenosine 2',5'-bisphosphate were the only effective biospecific eluents. A pulse of 50 μM NADP+ (1/2 column volume) gave a better purification than a 0-1 M KCl gradient and therefore was the preferred method of elution. Presaturation of the enzyme with various nucleotides was carried out to determine the effect on the subsequent binding of glucose-6-phosphate dehydrogenase to Matrex Gel Orange B. The results of these and biospecific-elution studies **lead** to the hypothesis of 2 possible schemes to explain the mechanism of the dye-protein interaction. Reusability, capacity of the adsorbent and effect of varying the ligand concentration were also studied in the purification of glucose-6-phosphate dehydrogenase on Matrex Gel Orange B.

L37 ANSWER 32 OF 33 MEDLINE on STN
ACCESSION NUMBER: 95077266 MEDLINE
DOCUMENT NUMBER: PubMed ID: 7985945
TITLE: Excel: a new frontier in haemapheresis.
AUTHOR: Zanella A
CORPORATE SOURCE: DIDECO S.p.A., Mirandola, Italy.
SOURCE: Annales de medecine interne, **(1994)** 145 (5) 340-4.
Journal code: 0171744. ISSN: 0003-410X.
PUB. COUNTRY: France
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199501
ENTRY DATE: Entered STN: 19950116
Last Updated on STN: 19950116
Entered Medline: 19950105

AB Haemapheresis is moving towards new prospects. The growing interest in stem cell collection, the increasing demand of single donor platelet units **lead** to a definition of a "new concept" of cell separator which can offer higher performance, higher selectivity and higher yield in order to guarantee superior quality and pureness of the collected product, but also higher treatment speed and easier usage, for improving user patient donor acceptability and safety level. For these reasons Dideco has developed the new Excel, an extremely innovative automatic blood cell separator, which opens new frontiers in the Haemapheresis field. The main technical features are summarized as following: automatic buffy **coat** level control through a CCD (charged coupled device), double eccentric-plate separation chamber (1 plate for every procedure), multi-processor system management, advanced user interface through a touch **screen** display, automatic fluid balancing system through load cell transducers, high-tech ergonomic design. All these innovative technologies are permitting an extremely high performance level higher PLT yield and lower WBC contamination (> 5 x 10(11) PLT with < 5 x 10(6) WBC--double leukodepleted PLT unit easy recoverable), lower procedure time (60 min for one PLT unit, 120 min for 2 unit), higher product quality (lower PLT activation, higher PLT reliability, lower complement activation-C3a), lower ACD consumption (higher withdrawal flow rates are possible), completely automatic procedure management, higher safety level, friendly and guided usage, customized protocols through a complete programmability. All these features and results also offer new standards for the field of haemapheresis through a new generation cell separator: Dideco Excel.

L37 ANSWER 33 OF 33 EMBASE
on STN
ACCESSION NUMBER: 76134081 EMBASE

DOCUMENT NUMBER: 1976134081
TITLE: Radiation hygiene in photofluorography.
AUTHOR: Welde F.
CORPORATE SOURCE: State Inst. Radiat. Hyg., Oslo, Norway
SOURCE: Acta Radiologica - Series Therapy, Physics and Biology, (1975) 14/2 (187-194).
CODEN: ATHBA3
DOCUMENT TYPE: Journal
FILE SEGMENT: 014 Radiology
035 Occupational Health and Industrial Medicine
LANGUAGE: English

AB This paper comprises measurements and experiences from the surveillance of 36 photofluorographic units in Norway. From the measured doses and statistical data, the following mean doses to the whole population are calculated: mean bone marrow dose: 11.2 mrad/person/year; genetically significant dose: 0.045 mrad/person/year. Photofluorography contributes considerably to the total mean bone marrow dose from radiography. The genetically significant dose from photofluorography is of the order of promilles of the total genetically significant dose from diagnostic radiology. Under normal conditions (the door closed) the radiation level was considered safe at the position of the operator and elsewhere in the room on that side of the cabin. Measurements with the door open indicated that the practice of supporting persons during the exposure gives doses of the order of 1,000 times the normal when a **lead** rubber **coat** is not worn. The **lead** rubber curtain on the other side of the cabin affords limited shielding. There may be more than one working place in the laboratory during photofluorography. The unit should be positioned in such a way that none of these is located in front of the cabin opening. The results and experiences gained have led to the following instructions for the radiation protection surveys of photofluorographic units (besides the general recommendations of the ICRP): The tube potential should be at least 125 kV. Units with low tube potential will gradually be replaced. The following minimum filtration will be required: 85 kV 2 mm Al total, 125 kV 3 mm Al total. Units occasionally used for children must have an adjustable diaphragm. Ambulatory units used only for adults may have a proper fixed diaphragm. When examining children and pregnant women a **lead** insert in the diaphragm or a **lead** rubber skirt should be used. Fast films and proper processing must be used. The fluorescent **screen** has to be replaced if its sensitivity deteriorates or is considerably less than for newer photofluorographic **screens**. Photofluorographic units should not be used for examinations where it is necessary to support the patient. Cabins with one open side shall be so oriented that no working place is located in front of the opening, where patients should not wait either.